DOCUMENT RESUME

ED 360 393 TM 020 421

TITLE	Achievement Testing Program Provincial Report. June 1992 Administration. Grade 3 Social Studies, Grade 6 English Language Arts, Grade 9 Mathematics, Francais 6e Annee.
INSTITUTION	Alberta Dept. of Education, Edmonton. Student Evaluation Branch.
REPORT NO	ISBN-0-7732-0850-X
PUB DATE	93
NOTE	135p.
AVAILABLE FROM	Alberta Education, Student Evaluation Branch, 11160 Jasper Avenue, Edmonton, Alberta, Canada T5K 0L2.
PUB TYPE	Statistical Data (110) -- Reports - Evaluative/Feasibility (142) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Academic Standards; *Achievement Tests; Educational Assessment; Elementary School Students; Elementary Secondary Education; English; Foreign Countries; French; Grade 3; Grade 6; Grade 9; *Language Tests; Mathematics Achievement; *Mathematics Tests; Problem Solving; Public Schools; Secondary School Students; *Social Studies; *Test Results
IDENTIFIERS	*Alberta Achievement Testing Programs; Standard Setting

ABSTRACT

The 1992 achievement tests for the Alberta (Canada) public schools show what students in grades 3, 6, and 9 can do in social studies, language arts, and mathematics, respectively. Results are reported in terms of curriculum standards, achievement standards, and assessment standards. In June 1992, there were 41,696 students in grade 3, 37,837 in grade 6, and 34,386 in grade 9. Of the total population, 97,315 took achievement tests in mathematics, social studies, and English or French language arts. Results indicate mixed achievement. In Grade 3 social studies, about 84 percent of the students achieved the acceptable standard, and a significant percentage achieved excellence. A smaller percentage achieved these standards in grade 6 language arts and grade 9 mathematics. Results in mathematics were disappointing, especially in problem solving, where about 64 percent achieved the acceptable standard. Achievement-over-time data indicate improvements in grade 3 social studies and grade 9 mathematics compared with 1984. In French, close to the expected numbers achieved the standards. Twenty-one figures and 59 tables present achievement data. Appendix A outlines the standard setting processes. Appendix B describes the public review of standards. Appendix C gives interpretation guidelines. Appendix D answers common parent questions about testing. Appendix E outlines test development. The study questionnaire is included. (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED360393

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it
☐ Minor changes have been made to improve reproduction quality
● Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
S. WOLODKO
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

Achievement Testing Program Provincial Report

June 1992 Administration

Alberta Education
Student Evaluation Branch

Alberta Education Cataloguing in Publication Data

Alberta. Alberta Education. Student Evaluation Branch.
Achievement testing program, provincial report: June 1992
administration.

ISBN 0-7732-0850-X

1. Achievement tests – Alberta.
2. Educational tests and measurements – Alberta.
3. Tests – Alberta – Provincial report – Elementary-junior high.
4. Achievement tests – Elementary-junior high – Provincial report.

I. Title II. Title: Provincial report: June 1992 administration.

LB3060.285.A3. 1993 371.26

This document was written primarily for:

Students	
Teachers	•
Administrators	•
Parents	
General Public	
Others (Specify)	Researchers

Distribution: Superintendents of Schools • School Principals and Teachers • The Alberta Teachers' Association • Alberta School Boards Association • Alberta Education • General Public upon Request

Copyright 1993, the Crown in Right of Alberta, as represented by the Minister of Education, Alberta Education, Student Evaluation Branch, 11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2. All rights reserved. *Additional copies may be obtained from the Student Evaluation Branch, 427-0010.*

4

Contents

xiii **Message from the Director**

1 **Section 1: Summary of Achievement Test Results**

5 **Section 2: Grade 3 Social Studies**

25 **Section 3: Grade 6 English Language Arts**

49 **Section 4: Grade 9 Mathematics**

69 **Section 5: Achievement by Gender**

71 **Section 6: Achievement by Age**

75 **Section 7: Achievement by Grade Level**

79 **Section 8: Achievement Over Time**

87 **Section 9: Grade 6 French Language Arts (Français 6e année)—Immersion Program**

97 **Section 10: Français 6e année—Programme francophone**

107 **Appendix A: Standards**

113 **Appendix B: Public Review of Standards and Results**

117 **Appendix C: Guidelines for Interpreting Results**

121 **Appendix D: Reporting to Parents—Answers to Frequently Asked Questions**

123 **Appendix E: Developing Achievement Tests**

127 **Questionnaire**

List of Figures

Section 1

2 ***Figure 1-1***
Students Writing Achievement Tests

3 ***Figure 1-2***
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test

3 ***Figure 1-3***
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test

Section 2

8 ***Figure 2-1***
Grade 3 Social Studies
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test

8 ***Figure 2-2***
Grade 3 Social Studies
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test

Section 3

29 ***Figure 3-1***
Grade 6 English Language Arts
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test

29 ***Figure 3-2***
Grade 6 English Language Arts
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test

Section 4

52 ***Figure 4-1***
Grade 9 Mathematics
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test

52 *Figure 4-2*
Grade 9 Mathematics
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test

61 *Figure 4-3*
Grade 9 Mathematics
Percentage of Students Achieving At or Beyond Grade 9 Expectation

Section 5

69 *Figure 5-1*
Number of Achievements Tests Written by Gender

70 *Figure 5-2*
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test by Gender

70 *Figure 5-3*
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test by Gender

Section 6

72 *Figure 6-1*
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test by Age

73 *Figure 6-2*
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test by Age

Section 7

76 *Figure 7-1*
Distribution of Grade Level Achievement

Section 9

91 *Figure 9-1*
Grade 6 French Language Arts Immersion Program: Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test

91 *Figure 9-2*
Grade 6 French Language Arts Immersion Program: Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test

Section 10

101 **Figure 10-1**
Français 6ᵉ année: Programme francophone
Pourcentage des élèves qui ont atteint ou surpassé le standard acceptable dans le test en entier et dans les parties du test

101 **Figure 10-2**
Français 6ᵉ année: Programme francophone
Pourcentage des élèves qui ont atteint ou surpassé le standard d'excellence dans le test en entier et dans les parties du test

Appendix A

109 **Figure A-1**
Process Model for Standard Setting: Achievement Testing Program

List of Tables

Section 2

6 ***Table 2-1***
Grade 3 Social Studies: Achievement Test Blueprint

7 ***Table 2-2***
Grade 3 Social Studies: Student Participation

9 ***Table 2-3***
Grade 3 Social Studies: Students Achieving Standards on the Total Test and on Components of the Test

10 ***Table 2-4***
Grade 3 Social Studies: Percentage Distribution of Jurisdictions Meeting Provincial Achievement Standards on the Total Test and on Components of the Test

11 ***Table 2-5A***
Grade 3 Social Studies: Results for Individual Multiple-Choice Questions, Topic A: My Community in the Past, Present, and Future

12 ***Table 2-5B***
Grade 3 Social Studies: Results for Individual Multiple-Choice Questions, Topic B: Communities Need Each Other

13 ***Table 2-5C***
Grade 3 Social Studies: Results for Individual Multiple-Choice Questions, Topic C: Special Communities

14 ***Table 2-6***
Grade 3 Social Studies: Results for Individual Mapping Questions

15 ***Table 2-7***
Grade 3 Social Studies: Raw Score Results by Reporting Category

18 ***Table 2-8***
Grade 3 Social Studies: Participation Skills—Percentage Distribution of Ratings

18 ***Table 2-9***
Grade 3 Social Studies: Participation Skills—Students Achieving Standards

20 *Table 2-10*
Grade 3 Social Studies: Contexts for Learning—Percentage Distribution of Student Responses

20 *Table 2-11*
Grade 3 Social Studies: Contexts for Learning—Percentage Distribution of Teacher Responses

Section 3

26 *Table 3-1*
Grade 6 English Language Arts: Achievement Test Blueprint—Part A: Composition

27 *Table 3-2*
Grade 6 English Language Arts: Achievement Test Blueprint—Part B: Reading

28 *Table 3-3*
Grade 6 English Language Arts: Student Participation

30 *Table 3-4*
Grade 6 English Language Arts: Students Achieving Standards on the Total Test and on Components of the Test

31 *Table 3-5*
Grade 6 English Language Arts: Percentage Distribution of Jurisdictions Meeting Provincial Achievement Standards on the Total Test and on Components of the Test

32 *Table 3-6*
Grade 6 English Language Arts: Percentage Distribution of Scale Points by Scoring Category—Part A: Composition

33 *Table 3-7*
Grade 6 English Language Arts: Raw Score Results by Reporting Category—Part B: Reading

33 *Table 3-8*
Grade 6 English Language Arts: Results for Individual Multiple-Choice Questions

38 *Table 3-9*
Grade 6 English Language Arts: Listening Skills—Distribution of Students in Relation to Grade 6 Expectations

39 *Table 3-10*
Grade 6 English Language Arts: Viewing Skills—Distribution of Students in Relation to Grade 6 Expectations

40 *Table 3-11*
Grade 6 English Language Arts: Survey on Attitudes Toward Language Learning—Percentage Distribution of Student Responses

44 *Table 3-12*
Grade 6 English Language Arts: Teacher Survey on Instructional Practices and Learning Environments—Percentage Distribution of Teacher Responses

Section 4

50 *Table 4-1*
Grade 9 Mathematics: Achievement Test Blueprint

51 *Table 4-2*
Grade 9 Mathematics: Student Participation

53 *Table 4-3*
Grade 9 Mathematics: Students Achieving Standards on the Total Test and on Components of the Test

54 *Table 4-4*
Grade 9 Mathematics: Percentage Distribution of Jurisdictions Meeting Achievement Standards on the Total Test and on Components of the Test

54 *Table 4-5*
Grade 9 Mathematics: Raw Score Results by Reporting Category

55 *Table 4-6*
Grade 9 Mathematics: Results for Individual Multiple-Choice Questions

57 *Table 4-7*
Grade 9 Mathematics: Results for Individual Numerical-Response Questions

60 *Table 4-8*
Grade 9 Mathematics: Performance-Based Assessment Activities

61 *Table 4-9*
Grade 9 Mathematics: Performance-Based Assessment Results

62 *Table 4-10*
Grade 9 Mathematics: Contexts for Learning—Percentage Distribution of Student Responses

64 **Table 4-11**
Grade 9 Mathematics: Contexts for Learning—Percentage Distribution of Teacher Responses

Section 6

71 **Table 6-1**
Number of Achievement Tests Written by Age

Section 7

77 **Table 7-1**
Grade 3 Social Studies: Distribution by Grade Level Achievement

77 **Table 7-2**
Grade 6 English Language Arts: Distribution by Grade Level Achievement

77 **Table 7-3**
Grade 9 Mathematics: Distribution by Grade Level Achievement

Section 8

80 **Table 8-1**
Comparison of the Achievement-Over-Time Tests by the Number of Questions from the Previous and Current Tests

81 **Table 8-2**
Comparison of AOT Sub-groups with Provincial Results

82 **Table 8-3**
Achievement-Over-Time Comparison of Descriptive Statistics

Section 9

88 **Table 9-1**
Grade 6 French Language Arts Immersion Program: Achievement Test Blueprint, Part A: Writing

89 **Table 9-2**
Grade 6 French Language Arts Immersion Program: Achievement Test Blueprint, Part B: Reading

90 **Table 9-3**
Grade 6 French Language Arts Immersion Program: Student Participation

92 Table 9-4
Grade 6 French Language Arts Immersion Program: Students Achieving Standards on the Total Test and on Components of the Test

93 Table 9-5
Grade 6 French Language Arts Immersion Program: Percentage Distribution of Jurisdictions Meeting Standards on the Total Test and on Components of the Test

93 Table 9-6
Grade 6 French Language Arts Immersion Program: Percentage Distribution of Scores by Reporting Category, Part A: Writing

94 Table 9-7
Grade 6 French Language Arts Immersion Program: Results for Individual Multiple-Choice Questions

Section 10

98 Tableau 10-1
Français 6e année: Programme francophone
Schéma du Test de rendement, Partie A: Production écrite

99 Tableau 10-2
Français 6e année: Programme francophone
Schéma du Test de rendement, Partie B: Lecture

100 Tableau 10-3
Français 6e année: Programme francophone
Participation des élèves

102 Tableau 10-4
Français 6e année: Programme francophone
Étudiants qui ont atteint les standards

103 Tableau 10-5
Français 6e année: Programme francophone
Distribution en pourcentage des notes par domaine d'évaluation

104 Tableau 10-6
Français 6e année: Programme francophone
Résultats pour chaque question à choix multiple

Appendix A

110 ***Table A-1***
Grade 3 Social Studies: Assessment and Achievement Standards

111 ***Table A-2***
Grade 6 English Language Arts: Assessment and Achievement Standards

111 ***Table A-3***
Grade 9 Mathematics: Assessment and Achievement Standards

Message from the Director

I am pleased to present the annual report on provincial achievement testing for the June 1992 administration. Results were mixed. In Grade 3 Social Studies, close to 84 per cent of the students achieved the acceptable standard, and a significant percentage achieved the standard of excellence. A smaller percentage of students achieved the standards in Grade 6 Language Arts and Grade 9 Mathematics.

Results in Grade 9 Mathematics were particularly disappointing, especially in problem solving, where approximately 64 per cent of the students achieved the acceptable standard. The Grade 9 Math results are consistent with the poor Grade 6 Math results in 1991 and diploma exam results in Math 30. All these results suggest that students are not developing the sound conceptual basis they need for success in mathematics.

Achievement-over-time results are again included in this annual report. This year, we compared student achievement in 1992 with that in 1988 and 1984. The data indicate improvements in Grade 3 Social Studies and Grade 9 Mathematics performance compared with student performance in 1984.

This report includes results of French immersion students and of Francophone students on the provincial achievement test for Français 6^e année. Close to the expected number of students achieved the standards.

Also in this year's report is information from performance-based assessment carried out with a sample of the students in each of the grades. Section 2 provides results for participation skills (Grade 3 Social Studies), listening and viewing skills (Grade 6 English Language Arts), and problem-solving skills (Grade 9 Mathematics). Included in this section as well is information obtained from questionnaires administered to a sample of students and teachers about the contexts for students' learning.

I want to express our appreciation to teachers, principals, and superintendents who helped us carry out these provincial assessments. I trust that this report will be interesting and useful to all of you. I hope it will assist you in reflecting on your instructional programs and in encouraging all students to meet high standards of achievement.

Horvath

Frank G. Horvath, Director

Section 1

Summary of Achievement Test Results

Parents, educators and the general public need to know how well Alberta students are achieving in relation to provincial standards.

The 1992 achievement test results help demonstrate what is **possible** for grades 3, 6, and 9 students to know and do in Social Studies, Language Arts, and Mathematics respectively.

> Knowledge of what is possible produces new enthusiasm, raises sights, establishes new challenges and ultimately can improve personal and societal performance.*

This first section of the report describes certain broad characteristics of the student population who wrote the achievement tests and provides answers to the following questions:

- **How many students wrote the achievement test for their grade and how many were absent and exempt?**
- **What percentage of the students attained the acceptable standard or higher according to criteria set by Alberta Education?**
- **What percentage of the students attained the standard of excellence or higher according to criteria set by Alberta Education?**

Results are reported in terms of three related but different standards: curriculum standards, achievement standards, and assessment standards.

Curriculum standards are the expected student learnings, sequenced into grade levels, that are stated for each curriculum. They include specific statements of knowledge, skills, and attitudes against which student performance is to be judged.

Achievement standards, usually expressed as percentages, state how many students at a given age or grade in school are *expected* to achieve or exceed the acceptable or excellent levels. It is important to point out that this judgment is not a prediction of what percentages of students will *actually* achieve or exceed acceptable or excellent levels of performance.

These achievement standards apply to school, jurisdiction, and provincial performance.

Assessment standards are the scores to be achieved by a student on a specific test or part of a test before the performance of that student is judged to be "acceptable" or "excellent" relative to the curriculum standards. Alberta Education reports the results for the achievement tests in relation to an *acceptable standard* and a *standard of excellence.*

Assessment and achievement standards for the 1992 achievement tests were determined and subsequently recommended to the Director of Student Evaluation by a curriculum and test development committee, a test review committee, a public advisory committee, and experienced subject classroom teachers who applied standard-setting procedures to the tasks under the guidance of the Analytic Services Unit of the Student Evaluation Branch. An outline of the processes followed is provided in Appendix A.

The public review of standards is described in Appendix B.

Guidelines for interpreting the 1992 results are given in Appendix C, and Appendix D provides answers to a number of questions frequently posed by parents. The process of developing the achievement tests is outlined in Appendix E.

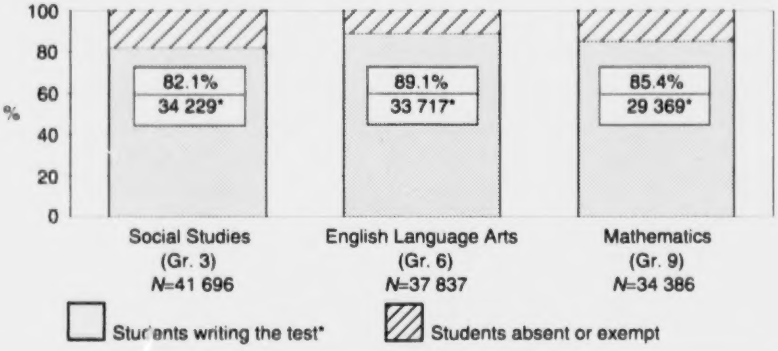
Student Populations

In June 1992, principals reported a total population of 113 919 students in the grades tested. There were 41 696 students in Grade 3, 37 837 students in Grade 6, and 34 386 students in Grade 9. Of the total population, 97 315 wrote achievement tests. The remaining 16 604 students were exempted from writing or were absent the day the tests were administered, as shown in

---

*Learning Mathematics/Learning Science International Assessment of Educational Progress, Educational Testing Service, February 1992.

Figure 1-1
Students Writing Achievement Tests
June 1992



* The number of students writing the tests includes students in the regular English program, Francophone and French Immersion students who wrote the achievement test in either English or French, and Grade 3 Social Studies students in combined (split) classes who wrote only a partial test.

Provincial results are based on test scores achieved by students who were in the regular English program, which is defined in the footnote for tables 2-2, 3-3, and 4-2. Results for Francophone students, French Immersion students, and for students in combined (split) classes were reported directly to participating schools and jurisdictions and are therefore not calculated in provincial results.

Figure 1-1. The tests were administered in three special forms in addition to the regular form. The information collected from the special forms was used to investigate student achievement over time. These results are reported in Section 8 of this report.

Observations on Student Participation in 1992 Achievement Tests

The student participation rate was highest in Grade 6 (89.1%) and lowest in Grade 3 (82.1%) when calculated on the numbers gathered from the annual Principal's Reports submitted after each achievement test administration. However, the lower participation rate in Grade 3 Social Studies may be because there was no French translation of the test for those students instructed in French. In terms of absolute numbers, more Grade 3 students (34 229) wrote their test in Social Studies than did Grade 6 students in Language Arts (33 717) and Grade 9 students in Mathematics (29 369).

When participation rates are calculated from the September 30, 1991, enrolment data, the rates change slightly. In Grade 3 Social Studies, the participation rate marginally decreased to 82.0%; in Grade 6, it increased to 89.8%; and in Grade 9, it fell to 82.9%.

The difference in participation rates, based on these two methods of calculation, was much smaller than the differences found in the 1991 data.

The achievement test administrative accounting was enhanced for the 1992 administration. For the first time, **all** schools were required to report student counts for each grade tested whether they were presenting students for testing or not.

Reports were required for:

- the total number of students enrolled in the grade on test day,
- the number of students who wrote the test,
- the number of students who were absent on test day,
- the number of students who were exempted from writing the test.

Compared to previous years, this method of data collection used on test day in June 1992 resulted in the reporting of:

- a higher total number of students,
- a higher number of students who were absent on test day, and
- a higher number of students who were exempted from writing the test.

Details of student participation at each grade level, showing the number of students who wrote the tests, who were absent, or who were exempted, are presented in sections 2, 3, and 4.

Results in Relation to Standards for Students Who Wrote the Achievement Tests

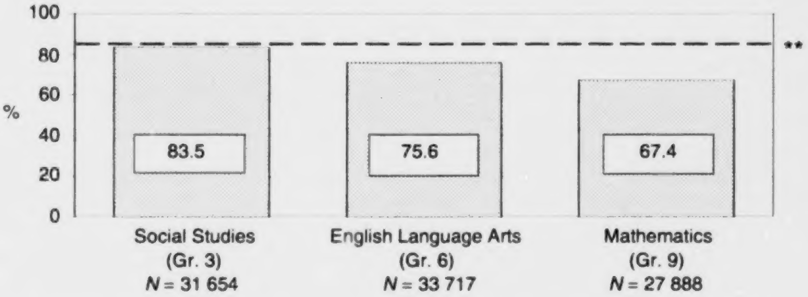
For the 1992 results, the focus of reporting student achievement is on the major components of the test as well as on the total test. Results are reported in relation to the standards established for individual major components as well as for the total test.

From discussions with educators, test development specialists, and curriculum specialists, and based on our experience with measuring student achievement according to the expectations of the *Program of Studies*, we expect 85% of students to achieve the *acceptable standard* or higher and 15% of students to achieve the *standard of excellence* or higher on each major component and on the total test.

Standards reflect expectations for the regular English language program students and not for the total population—which, for example, would include special needs students.

Figures 1-2 and 1-3 present the percentage of students who achieved the *acceptable standard* or higher and the *standard of excellence* or higher based on their **total test** scores.

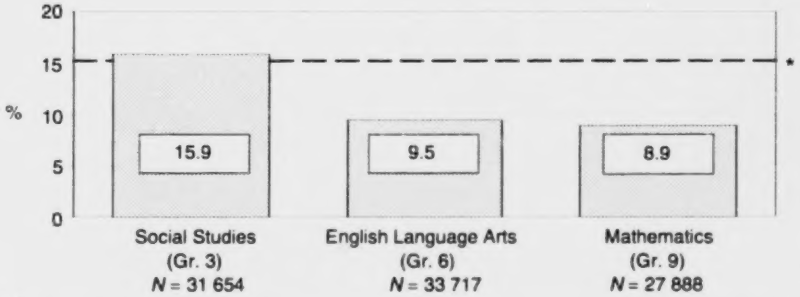
Figure 1-2
Percentage of Students Achieving Acceptable Standard or Higher* on the Total Test
June 1992



---

*Includes students achieving the standard of excellence or higher
**85% of students were expected to achieve the acceptable standard or higher on the total test.

Figure 1-3
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test
June 1992



---

*15% of students were expected to achieve the standard of excellence or higher on the total test.

General Observations on Results

Of the three grades and subjects tested in 1992, the results in Grade 3 Social Studies were closest both to reaching provincial achievement standards and to being judged satisfactory. In Grade 3 Social Studies, results based on the total test scores revealed that the percentage of students achieving the *acceptable standard* or higher was slightly **lower** than expected, and the percentage achieving the *standard of excellence* or higher was marginally higher than expected.

Results for Grade 6 English Language Arts were disappointing. The percentages of students achieving standards were **much lower** than expected for both levels.

Results for Grade 9 Mathematics were the most disappointing. The percentages of students achieving standards for either level were much lower than expected and were **the lowest** of the annual program results.

Section 2

Grade 3 Social Studies

Introduction

In 1992 a number of assessments were carried out in Grade 3 Social Studies. The achievement test was administered to students province-wide. Participation skills were assessed with a sample of Grade 3 Social Studies students. As well, a sample of Grade 3 Social Studies teachers and a sample of Grade 3 Social Studies students participated in a pilot study to examine the relationship among various contexts for learning and their effect on achievement. The results from all these assessments follow.

Achievement Test General Description

The Grade 3 Social Studies Achievement Test consisted of 50 multiple-choice questions. The time allotted for writing the test was 20 minutes for each of three parts. Statistics for the total test and for the components are based on the results achieved by 31 654 students: 29 043 wrote the regular form and 2 611 participated in the achievement-over-time study, as shown in Table 2-2. This section of the report provides answers to the following questions.

- How many Grade 3 students wrote each form of the test or were absent and exempt?
- What percentage of Grade 3 students attained the *acceptable standard* or higher in Social Studies according to provincial criteria?
- What percentage of Grade 3 students attained the *standard of excellence* or higher in Social Studies according to provincial criteria?
- What did Grade 3 students know and what could they do in Social Studies?
- What parts of the Social Studies curriculum caused Grade 3 students difficulty?

Summary of Results

Results in Relation to Standards

Results show that 83.5% of students who wrote the test achieved the *acceptable standard* or higher and 15.9% achieved the *standard of excellence* or higher on the total test. These results were slightly lower than expected for the *acceptable standard* but marginally higher than expected for *the standard of excellence.*

Average Score

The average total test score was 77.4%, with a standard deviation of 16.5. The average total test raw score was 38.7 marks out of a possible 50, with a standard deviation of 8.2.

Content of the Test

The Grade 3 Social Studies Achievement Test was designed to reflect the *Grade 3 Social Studies Curriculum* (revised 1990). The scope of the test was limited to knowledge and skill objectives that could be effectively measured on a multiple-choice test. As a result, all questions were drawn from the content of the three topics prescribed for Grade 3:

Topic A: My Community in the Past, Present, and Future
Topic B: Communities Need Each Other
Topic C: Special Communities

The knowledge objectives component consisted of questions from the three topic areas in Grade 3 Social Studies. The skill objectives integrated knowledge with process skills and communication skills.

Questions measured student achievement in two cognitive levels:

- Knowledge—recognize or recall ideas, terminology, facts, principles, generalizations, and concepts

- Process Skills—locating/organizing/interpreting information; geography and mapping; analyzing/synthesizing/evaluating

Test Blueprint

The test blueprint shows the distribution of questions according to the curricular content area (topic) being assessed and according to the knowledge and process skills required to answer the question.

Table 2-1
Grade 3 Social Studies Achievement Test Blueprint
June 1992

	Topic/Concept Reporting Category				
Objectives Reporting Category	**Topic A** **My community in the past, present, and future**	**Topic B** **Communities need each other**	**Topic C** **Special communities**	**Proportion of Total Score**	
Knowledge Objectives Understands generalizations, concepts, related facts and content	1,2,4,5,6,10	19,21,22,23,31,34	35,36,37,39, 43,49	36%	
Process Skill Objectives Locating/organizing/interpreting information	3,7,11,12,15	20,24,26	40,41,45,48	24%	64%
Geography and mapping	16,17	25,28,29,30	46,47	16%	
Analyzing/synthesizing/evaluating	8,9,13,14	18,27,32,33	38,42,44,50	24%	
Proportion of Total Score	34%	34%	32%	100%	

Student Participation

In June 1992, principals reported a total population of 41 696 students in Grade 3. Table 2-2 presents the number and percentage distribution of students who wrote the Grade 3 Social Studies Achievement Test, who were absent, and who were exempted.

Results for students in French Immersion or Francophone programs or in combined (split) classes who wrote a partial test only are reported separately to participating schools and jurisdictions.

Table 2-2
Grade 3 Social Studies
Student Participation
June 1992

Category	Number of Students		Percentage of Students	
Total Number of Students in Regular Programs*		31 654		75.9
Students Who Wrote the Regular Form**	29 043		69.7	
Students Who Wrote the Achievement-Over-Time Forms:	2 611		6.3	
Form F (Red)—Same as the Regular Form	*898*		*2.2*	
Form E (Turquoise)	*855*		*2.1*	
Form D (Charcoal)	*858*		*2.1*	
Other Students Who Wrote:* **		2 575		6.2
Francophone—Taught in French, Wrote in English	24		0.1	
French Immersion—Taught in French, Wrote in English	634		1.5	
Combined (Split) Classes—Wrote Partial Test only	1 917		4.6	
Students Absent		1 327		3.2
Students Exempted from Writing		6 140		14.7
Categories of Exemption:				
1. Special Needs Students	1 224		2.9	
2. Subject Was Not Taught This Term	947		2.3	
3. English as a Second Language Students	501		1.2	
4. Language of Instruction Was Not English	1 769		4.2	
5. Other (as approved by the Superintendent)	1 699		4.1	
Total Principals' Reported Population Test Day, June 1992:		41 696		100.0
Grade 3 Enrolment: September 30, 1991		41 763		

---

* Provincial results are based on test scores achieved by students who were in the "regular" Social Studies program. Such students are defined as those who were instructed in English and who wrote the English form of the achievement test, and those students who were instructed in a language other than English or French and who wrote the English form of the test. They are indicated by the shaded area of the table.

** Regular Form refers to the unmodified 1992 test. The modified tests are described in Section 8 of this report.

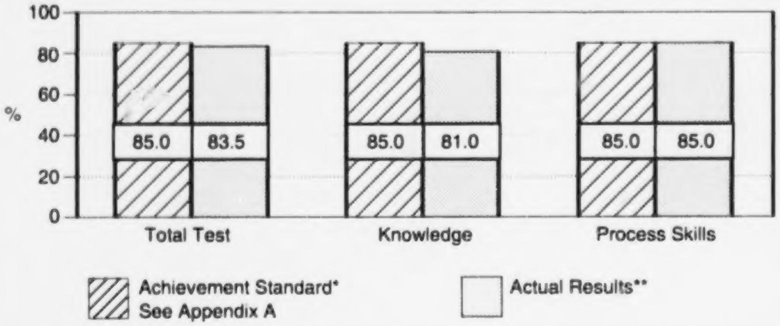
*** Results for Francophone or French Immersion students or for students in combined (split) classes who wrote partial tests only are reported directly to participating schools and jurisdictions and are not calculated in the provincial results.

BEST COPY AVAILABLE

Results in Relation to Standards

Figures 2-1 and 2-2 and Table 2-3 show the percentage of students achieving the *acceptable standard* or higher and the *standard of excellence* or higher on the total test and on components of the test. The levels of performance were higher than expected for the *standard of excellence* on all reporting categories and lower than expected for the *acceptable standard* on the total test and on the knowledge component.

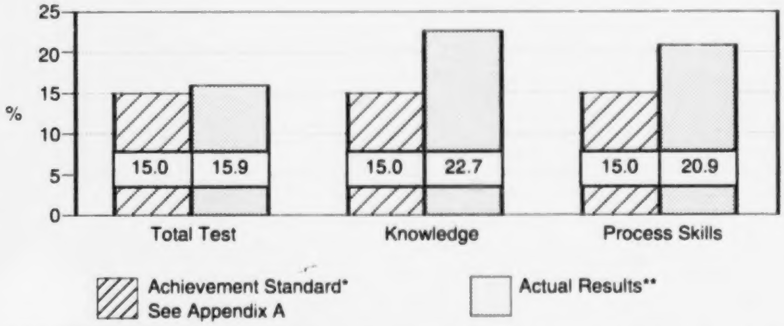
Figure 2-1
Grade 3 Social Studies
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the acceptable standard or higher

** the percentage of students in the province who met the acceptable standard or higher

Figure 2-2
Grade 3 Social Studies
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the standard of excellence or higher

** the percentage of students in the province who met the standard of excellence or higher

Table 2-3
Grade 3 Social Studies
Students Achieving Standards on the Total Test and on Components of the Test
June 1992

Reporting Category	Maximum Possible Score	Provincial Assessment Standard* (Raw Score)	Provincial Achievement Standard** (Per cent)	Students Achieving Assessment Standard or Higher		
				Expected Number	Actual Number	Actual Per cent
Standard of Excellence or Higher						
Total Test	50	47	15	4 748	5 043	15.9
Facts, Concepts, Generalizations Only	18	17	15	4 748	7 190	22.7
Process Skills Only	32	30	15	4 748	6 604	20.9
Acceptable Standard or Higher						
Total Test	50	31	85	26 906	26 431	83.5
Facts, Concepts, Generalizations Only	18	11	85	26 906	25 641	81.0
Process Skills Only	32	20	85	26 906	26 904	85.0
Below Acceptable Standard on Both Components	N/A	N/A	N/A	N/A	3 455	10.9

*****The Provincial Assessment Standard** is a score determined by appropriate standard-setting procedures and is the lowest score a student must achieve for his/her performance to be judged "acceptable" and/or "excellent" in relation to curricular expectations. See Appendix A.

****The Provincial Achievement Standard** refers to the percentage of students expected to meet or exceed the Provincial Assessment Standard. See Appendix A.

It should be noted that the actual percentages of students achieving or exceeding standards on the total test for Grade 3 Social Studies are based on the 31 654 students in the regular programs who wrote the test.

If, however, the percentages are based on the total population reported by principals (41 696), less the French Immersion, Francophone, and combined (split) class students who wrote the test (2 575), the percentages achieving standards on the total test would be:

12.9% achieving the *standard of excellence* or higher
67.6% achieving the *acceptable standard* or higher.

If the percentages are based on the September 30, 1991, Grade 3 enrolment (41 763), less the French Immersion, Francophone, and combined (split) class students who wrote the test (2 575), the percentages achieving standards on the total test would be:

12.9% achieving the *standard of excellence* or higher
67.4% achieving the *acceptable standard* or higher.

It is emphasized that the above percentages, based on the total population and enrolment figures, present the lowest estimate of achievement. It is highly likely that some of the students who were absent, exempt, or not accounted for would have achieved standards. The absence of information on these students is nonetheless problematic.

BEST COPY AVAILABLE

The number of students achieving the *acceptable standard* or higher and the *standard of excellence* or higher for each jurisdiction was analyzed to determine whether jurisdictions were below, meeting, or exceeding provincial achievement standards. Jurisdictions classified as meeting provincial achievement standards were those for which the difference between the actual number of students and the expected number of students at or above standards was not statistically significant. A 95% confidence interval was used; this criterion means that differences are only reported when there is a 5% or smaller probability that a difference of that size could occur by chance. The results are reported in Table 2-4. ***The percentage distributions in the table are based on 198 jurisdictions (including private schools).***

Table 2-4
Grade 3 Social Studies
Percentage Distribution of Jurisdictions* Meeting Provincial Achievement Standards on the Total Test and on Components of the Test
June 1992

	Percentage Distribution of Jurisdictions		
Component	**Not Meeting Provincial Achievement Standard (Per Cent)**	**Meeting Provincial Achievement Standard (Per Cent)**	**Exceeding Provincial Achievement Standard (Per Cent)**
Standard of Excellence or Higher			
Total Test	9.6	75.8	14.6
Facts, Concepts, Generalizations Only	4.5	58.6	36.9
Process Skills Only	3.6	62.1	34.3
Acceptable Standard or Higher			
Total Test	26.3	63.1	10.6
Facts, Concepts, Generalizations Only	33.8	57.6	8.6
Process Skills Only	19.2	65.1	15.7

*Jurisdictions with fewer than five students are excluded because the statistical significance of the difference between the number actually meeting or exceeding the standard and the number expected to meet or exceed the standard when calculated and reported is not educationally meaningful.

Results for Individual Multiple-Choice and Mapping Questions

Tables 2-5A to 2-5C show the percentage of students who chose each alternative (A, B, C, and D) for each multiple-choice question.

Table 2-6 shows the percentage of students who gave answers to each mapping question. The correct response (key) for each question is identified; the component, the category, and the curriculum standard that each question measures are also indicated.

The results shown in these tables can best be used in conjunction with the tables in the jurisdiction and school reports. Variations in patterns of students' responses to questions can help to indicate strengths and weaknesses in local educational programs.

Statistics presented in these tables are based on results achieved by 29 941 students (those who wrote the regular form and those who wrote Form F).

The sum of the percentages for each question may be less than 100% because the No Response category is not reported in these tables.

Table 2-5A
Grade 3 Social Studies
Results for Individual Multiple-Choice Questions
Topic A: My Community in the Past, Present, and Future
June 1992

Item	Distribution of Responses (%)				Component	Category	Curriculum Standard
	A	B	C	D			
1	**86.1***	5.0	3.3	4.0	Knowledge	C	defines what a community is
2	**71.4***	18.9	6.2	2.7	Knowledge	C	identifies an essential characteristic of a community
4	**87.7***	2.4	5.8	3.7	Knowledge	C	applies the meaning of past to family members
5	**75.0***	8.3	4.6	10.9	Knowledge	C	knows what present means
6	7.7	**87.7***	3.1	1.1	Knowledge	C	knows that group work depends on sharing ideas
10	1.4	13.3	4.3	**77.2***	Knowledge	G	recognizes an example of change in a community
3	3.9	7.1	2.4	**86.3***	Process Skills	L	identifies an appropriate question to be asked in an interview
7	5.9	14.3	**76.0***	2.8	Process Skills	L	infers relationship between key life events, age, and the future
11	6.2	**75.7***	10.0	7.0	Process Skills	L	identifies an example of technological change over time
12	4.5	8.9	**85.3***	0.7	Process Skills	L	draws conclusions from a graph
15	**77.1***	8.6	6.1	7.5	Process Skills	L	synthesizes information from interviews
16	8.7	8.7	**75.0***	6.6	Process Skills	M	draws conclusions by inference from the symbols on a map
8	**77.6***	12.2	2.5	7.3	Process Skills	A	predicts how communities will look in the future
9	22.0	8.4	8.6	**60.4***	Process Skills	A	predicts the type of communication that will be used in the future
13	1.1	**77.3***	2.4	18.2	Process Skills	A	draws conclusions about an individual's contribution to the community
14	1.3	1.7	**84.4***	11.9	Process Skills	A	evaluates an individual's contribution to the community

*correct answer

Category Legend:
F—Facts
L—Locating, Organizing, Interpreting Information
C—Concepts
M—Mapping
G—Generalizations
A—Analyzing, Synthesizing, Evaluating

Table 2-5B
Grade 3 Social Studies
Results for Individual Multiple-Choice Questions
Topic B: Communities Need Each Other
June 1992

Item	Distribution of Responses (%)				Component	Category	Curriculum Standard
	A	B	C	D			
19	**89.0***	4.9	1.8	3.6	Knowledge	C	differentiates a want from a need
21	10.6	6.4	**69.5***	12.4	Knowledge	C	recognizes an example of a service
22	4.6	8.9	**75.0***	10.3	Knowledge	C	knows the difference between rural and urban goods
23	3.1	14.8	**77.7***	3.3	Knowledge	C	knows the difference between rural and urban goods
31	4.7	**73.9***	9.2	11.2	Knowledge	C	shows an understanding of the concept of exchange
34	3.1	5.1	10.6	**80.6***	Knowledge	C	differentiates aspects of rural life from urban life
20	3.0	6.7	5.5	**81.5***	Process Skills	L	identifies places where goods are made rather than where services are provided
26	**68.5***	4.8	15.0	10.9	Process Skills	L	locates information by inferring from a title
29	2.3	2.7	4.0	**90.1***	Process Skills	M	interprets information on a map using its legend
30	**83.6***	7.0	4.7	3.9	Process Skills	M	uses cardinal directions to draw conclusions from a map
18	2.3	6.2	**89.0***	1.7	Process Skills	A	classifies an example of a need
27	**86.2***	2.0	1.6	3.3	Process Skills	A	relates geography to goods produced in a community
32	21.8	6.4	4.7	**66.4***	Process Skills	A	synthesizes information provided in a short paragraph on exchange of goods
33	10.7	**81.1***	4.7	2.2	Process Skills	A	synthesizes information provided in a short paragraph on exchange of goods

*correct answer

Category Legend:		
	F—Facts	M—Mapping
	L—Locating, Organizing, Interpreting Information	G—Generalizations
	C—Concepts	A—Analyzing, Synthesizing, Evaluating

Table 2-5C
Grade 3 Social Studies
Results for Individual Multiple-Choice Questions
Topic C: Special Communities
June 1992

Item	Distribution of Responses (%)				Component	Category	Curriculum Standard
	A	B	C	D			
35	4.3	**81.2***	8.9	5.0	Knowledge	F	identifies a custom in a native community
37	30.2	17.3	**35.9***	15.9	Knowledge	F	understands that wanting to learn about another custom is showing respect
39	9.4	**72.7***	7.2	9.1	Knowledge	F	recognizes examples of Chinese customs
43	1.7	1.8	**90.1***	6.0	Knowledge	F	recognizes examples of Chinese customs
49	2.8	**56.1***	26.5	14.0	Knowledge	F	understands ways of showing respect
36	10.1	7.0	8.1	**74.3***	Knowledge	C	knows the concepts of tradition/customs
40	25.8	**41.1***	26.6	5.5	Process Skills	L	distinguishes between fictional stories and factual information about China
41	3.0	6.8	5.8	**83.7***	Process Skills	L	identifies possible sources of information about special communities
45	6.5	6.2	6.7	**80.0***	Process Skills	L	draws conclusions about information in a short passage
48	9.0	12.1	**63.6***	14.6	Process Skills	L	acquires information by reading
46	8.5	8.0	**79.7***	2.9	Process Skills	M	uses intercardinal directions to interpret information on a map
38	**86.2***	4.7	5.5	2.7	Process Skills	A	analyzes the ways people perpetuate their lifestyle
42	1.8	11.7	**80.5***	5.4	Process Skills	A	analyzes the ways people perpetuate their lifestyle
44	**82.7***	3.4	9.4	3.9	Process Skills	A	analyzes participation in traditions
50	4.5	6.2	7.0	**80.0***	Process Skills	A	analyzes ways people keep their customs

*correct answer

Category Legend:
F—Facts
L—Locating, Organizing, Interpreting Information
C—Concepts
M—Mapping
G—Generalizations
A—Analyzing, Synthesizing, Evaluating

Table 2-6
Grade 3 Social Studies
Results for Individual Mapping Questions
June 1992

Item	Distribution of Responses (%)				Component	Category	Curriculum Standard
Topic A: My Community in the Past, Present, and Future							
17	**Duck Lake*** **65.6**	Muriel Lake 6.6	Sinking Lake 1.9	Kehewin Lake 1.0	Process Skills	Mapping	uses cardinal directions to read a map
Topic B: Communities Need Each Other							
24	**Exactly 4*** **76.0**	Less than 4 3.7	More than 4 5.6	Other Responses 10.7	Process Skills	Organizing Information	interprets and makes bar graphs
25	**North*** **95.8**	South 1.2	East 1.0	West 1.2	Process Skills	Mapping	identifies north on a globe
28	**Alberta*** **93.2**	Saskatchewan 1.7	Quebec 1.5	Other Responses 2.3	Process Skills	Mapping	locates Alberta on a map of Canada
Topic C: Special Communities							
47	**Fort Vermilion*** **84.3**	Medicine Hat 2.2	Edmonton 1.3	Other Responses 2.4	Process Skills	Mapping	compares distances on a map

*correct answer.

Reporting Categories

Table 2-7 shows the total marks possible and the raw score averages for the reporting categories.

It is important to stress that the averages in the various reporting categories cannot be directly compared with one another. Rather, the results shown in Table 2-7 can best be used in conjunction with parallel tables in the jurisdiction and school reports. Variations in patterns of results can help indicate strengths and weaknesses in local educational programs.

Statistics presented in this table are based on results achieved by 29 941 students (those who wrote the regular form and those who wrote Form F).

Table 2-7
Grade 3 Social Studies
Raw Score Results by Reporting Category
June 1992

Reporting Category	Maximum Possible Raw Score	Raw Score Average	Raw Score Standard Deviation
Topic A—My Community in the Past, Present, and Future	17	13.3	3.0
Topic B—Communities Need Each Other	17	13.8	3.1
Topic C—Special Communities	16	11.7	3.2
Knowledge			
(Facts, Concepts, Generalizations)			
Topic A	6	4.9	1.3
Topic B	6	4.7	1.6
Topic C	6	4.1	1.5
Process Skills:			
Locating/Organizing/Interpreting	12	8.9	2.3
Geography and Mapping	8	6.7	1.5
Analyzing/Synthesizing/Evaluating	12	9.5	2.2
Major Components:			
Knowledge	18	13.6	3.5
Process Skills	32	25.1	5.2

Examiner's Observations

Achievement Test

Students achieved very close to or higher than the *acceptable standard* in both knowledge and process skills and on the total test. In all three areas, more students than expected met the *standard of excellence*.

Most students have learned the content of the course. Their achievement on the test shows a good understanding, which enables them to relate their knowledge of social studies concepts to the real world. In addition, most students are proficient at the process skills expected in Grade 3. They can apply problem solving and critical thinking skills within the context of Grade 3 Social Studies.

A discussion of specific areas of strength and difficulty for Grade 3 students follows.

Acceptable Standard—Sample Questions and Commentary

What did students know and do well?

Generally, students achieving the *acceptable standard* or higher had a sound understanding of the knowledge and basic process skills in the Grade 3 Social Studies program. Specifically, these students had a good understanding and could apply their knowledge of basic concepts such as *community, past, present, future, wants, needs, cardinal directions,* and *tradition*. Many of these students were also able to interpret graphed information and to demonstrate mapping skills. **Questions 1** and **12** are examples. The circle beside the correct answer has been filled in, and the number is the percentage of students choosing each alternative.

Where did students have difficulty?

Question 26 required students to make a connection between "goods produced" and "what is made." Almost all students achieving the standard of excellence were able to do this. Many other students, however, linked *production* to *service* or to *farming*, and they therefore incorrectly chose alternatives C or D.

Questions 36 and **39** required students to demonstrate a basic understanding of customs. Many students achieving the acceptable standard on the test overall were unable to do this. Interestingly, more students were able to relate "special communities" to "customs" in **question 38**.

---

1. The BEST meaning of community is

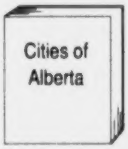
- **86.1** ● a place where people live, work, and play together
- **5.0** ○ a place where people do different things
- **3.3** ○ a special way of doing things
- **4.0** ○ a piece of land or region

---

26. Titles of books help us to find information. Which book would BEST help us find information about goods that are produced in Alberta?

What is Made in Alberta

68.5 ●



4.8 ○

15.0 ○

10.9 ○

---

36. Another word for custom is

- **10.1** ○ community
- **7.0** ○ language
- **8.1** ○ respect
- **74.3** ● tradition

---

39. Sue's family is from China. Her mother often cooks food in a wok and the family eats using chopsticks. This is an example of a

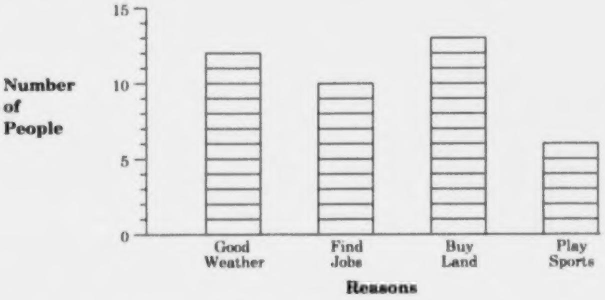
- **9.4** ○ change
- **72.7** ● custom
- **7.2** ○ community
- **9.1** ○ contribution

---

38. People know they are in a special community because of the

- **86.2** ● way people keep their customs
- **4.7** ○ hospitals people use
- **5.5** ○ crops people grow
- **2.7** ○ cars people drive

This graph shows why people moved to Fox River.



12. Why did most people move to Fox River?

- **4.5** ○ To enjoy good weather
- **8.9** ○ To find jobs
- **85.3** ● To buy land
- **0.7** ○ To play sports

Standard of Excellence—Sample Questions and Commentary

Use the information below to answer questions 32 and 33.

Lumber is shipped from Vancouver to Regina on big trucks. People in Regina buy this lumber to build their houses. Wheat is shipped from Regina to Vancouver where it is used to make bread. In this way, the people in both cities get the things they need.

32. What is this paragraph saying about exchanging goods?

21.8 Lumber is used in Regina to build houses.
6.4 Trucks are needed to transport wheat.
4.7 Cities use many different services.
66.4 ● Communities depend on each other for goods.

13. When Mr. Hill moved to Fox River, he opened a small bakery. What contribution does Mr. Hill's bakery make to the community?

1.1 ○ It provides a place to play sports.
77.3 ● It produces goods for people.
2.4 ○ It causes pollution.
18.2 ○ It provides many jobs.

40. In which book could you read FICTION about China?

25.8 ○ Places in China
41.1 ● Chinese Fairytales
26.6 ○ The Encyclopedia of China
5.5 ○ A Dictionary for Elementary Students

42. The children in these pictures keep their traditions by

1.8 wearing jeans to school
11.7 speaking a different language
80.5 ● celebrating in special ways
5.4 eating special food

What did students know and do well?

Students achieving the *standard of excellence* had little difficulty handling questions that involved detailed reading passages and the use of high-level process skills such as analyzing and synthesizing.

Question 32 required students to analyze the information in the paragraph to determine the main point. **Question 42** required students to analyze both the visual and written information in the four separate boxes to draw a conclusion. Of students achieving the acceptable standard, 77.1% were able to do this, as were 98.6% of students achieving the standard of excellence.

To successfully answer **question 13**, students needed to know that a bakery produces breads, cakes, and other products, and that these are examples of "goods." Although students achieving the standard of excellence were able to make this connection and realized that a "small" bakery would not provide "many jobs," other students were attracted by choice D.

Where did students have difficulty?

Students achieving the standard of excellence had difficulty with **question 40**, which required them to distinguish between fictional stories and factual information. Other than this, these students had almost no difficulties with Grade 3 Social Studies knowledge or process skills.

Use the information below to answer question 42.

On Chinese New Year, Chang goes to the Dragon Parade. Later his family shares gifts and eats moon cakes.

Susan is ready for the powwow. She likes to do her native dance for her friends there.

Ian likes to wear a kilt and play the bagpipes at Scottish parties. He also enjoys the Scottish food his father makes.

Mary likes to wear the Polish dress that her mother gave her for Christmas. She also likes to sing and dance to Polish music.

Participation Skills Study

General Description

In addition to the traditional multiple-choice achievement test, Grade 3 teachers and 1 798 students from a sample of 63 schools throughout the province were involved in an assessment of participation skills. This study was designed to answer the question “At what level are Grade 3 students performing in participation skills?” The teachers used three descriptors to rate each of their students in 11 areas of group interaction.

Teachers who set standards for the multiple-choice achievement test also made judgments regarding the participation skills of students performing at Grade 3 and beyond Grade 3 expectations. The assessment criteria and the results of this study are shown below.

Descriptors for Rating Scale

Occasionally, if ever –the student occasionally, if ever, demonstrates this behavior

Often –the student demonstrates this behavior more than half the time, but not consistently

Consistently –the student consistently demonstrates this behavior and very rarely does not

Table 2-8
Grade 3 Social Studies
Participation Skills: Percentage Distribution of Ratings

Group Interaction	**Rating Scale**		
	Occasionally, if ever	**Often**	**Consistently**
1. Works co-operatively with a partner	11.0	44.6	44.4
2. Demonstrates willingness to take turns in discussions and play	11.8	43.8	44.4
3. Understands the need for group rules and the need to follow the rules	9.0	42.2	48.8
4. Attempts to encourage and offer approval to those he/she works with	23.3	46.0	30.7
5. Participates co-operatively in group work	13.2	43.3	43.4
6. Makes meaningful contributions to discussions, supporting ideas with facts and reason	20.6	44.2	35.2
7. Takes part in making the rules for group work	14.8	48.9	36.3
8. Accepts the role of leader and follower as the situation requires or demands	19.9	48.4	31.8
9. Demonstrates respect for the rights and opinions of others	12.0	43.0	44.9
10. Participates in a small group discussion or activity by following established rules	12.8	45.1	42.1
11. Stays on task	15.9	41.9	42.2

Table 2-9
Grade 3 Social Studies
Participation Skills: Students Achieving Standards

Student Achievement	**Standards**	**Percentage of Students**
Beyond Grade 3	Students were rated “Consistently” in 7 of the 11 skills	30.7
At Grade 3	Students were rated “Often” or “Consistently” in 10 of the 11 skills but had fewer than 7 “Consistently” ratings	36.0
Not Yet At Grade 3	Students were rated “Often” or “Consistently” in fewer than 10 of the 11 skills	33.3

Examiner's Observations

Participation Skills

Students were asked to complete a self-assessment of their participation skills using the descriptors "Often," "Sometimes," and "Not Often." Fewer than 50% indicated that they "Often" praise group members who have good ideas. A similar percentage indicated that they do not "Often" demonstrate good leadership skills. Yet, the students indicated a very positive perception of their participation skills. For example, over 70% of the students perceived that they "Often" do their share of the work and "Often" follow the rules of the group.

The instrument used by both the teachers and the students provided a limited amount of information regarding participation skills, although the Grade 3 teachers who participated in the study were pleased with the initiative and enthusiastic about the general trend to assess a broader range of skills as defined in the *Program of Study*. More work is needed on the design and administration of the instrument.

Relationship between Students' Participation Skills and the Achievement Test

Generally, there is a direct and positive relationship between a student's attainment of participation skills and a student's performance on the achievement test. The results of the achievement test indicate that 56.4% of students who are performing below Grade 3 in participation skills are also below the acceptable standard on the achievement test, whereas 62.8% of students who are above Grade 3 in participation skills also met the standard of excellence on the achievement test. Students meeting each standard on the achievement test performed well. Although 85.6% of all students met or exceeded the *acceptable standard* on the achievement test, 70.6% of students sampled demonstrated at or above Grade 3 participation skills.

Contexts for Learning Study *General Description*

In June 1992, 104 Grade 3 Social Studies teachers from 59 schools and 264 students from across the province participated in a pilot study designed to identify and examine relationships among various contexts for learning and their effect on student achievement. Students responded to questions related to the attitudes outlined in the *Program of Studies* for Social Studies. Teachers reported on the types and frequency of use of instructional strategies, writing activities, classroom resources, and other activities in their social studies classes.

Table 2-10
Grade 3 Social Studies
Contexts for Learning: Percentage Distribution of Student Responses

Question	No response	No	Maybe	Yes	Not sure
1. Is someone wrong when two people can't agree?	1.9	38.3	23.9	18.9	17.0
2. Can you learn from other students?	1.1	9.1	11.7	76.1	1.9
3. Are you interested in other people's ideas?	1.1	13.6	22.7	55.7	6.8
4. Can you learn from people who are different from you?	1.1	7.2	9.5	78.4	3.8
5. Do you want to listen to what someone else has to say if their opinion is different from yours?	1.9	11.4	14.8	63.3	8.7
6. Is it okay if some people have opinions that are different from yours?	1.1	4.2	4.2	86.4	4.2
7. Do you ever make fun of other students?	1.1	55.3	19.3	18.9	5.3
8. Do you like working with students who are different from you?	1.5	8.3	11.7	69.7	8.7
9. Do you like to learn about special communities?	0.8	8.0	8.0	77.3	6.1
10. Can you get good ideas from people who live in special communities?	1.9	3.0	9.5	78.8	6.8
11. Should people in special communities be more like everyone else?	1.9	61.7	8.0	15.2	13.3
12. Can students like you do anything to make their community better?	1.9	9.5	14.8	63.6	10.2
13. Should students like you try to make their community better?	1.9	8.7	10.2	70.5	8.7
14. Do you like learning about the past of your community?	1.1	6.4	8.3	79.2	4.9
15. Should all students know about their community's past?	1.1	13.6	20.8	53.4	11.0

Table 2-11
Grade 3 Social Studies
Contexts for Learning: Percentage Distribution of Teacher Responses

Question	No response	Never	Less than once a week	Once a week	Several times a week	Every day
1. How often did you use the following instructional strategies with your social studies students this year?						
a. Full class discussion	—	—	1.0	9.6	66.3	23.1
b. Reading from a textbook	2.9	1.0	34.6	23.1	34.6	3.8
c. Worksheets	1.9	1.9	41.3	29.8	25.0	—
d. Small group discussion	—	1.0	24.0	29.8	40.4	4.8
e. Library research	1.9	6.7	67.3	15.4	7.7	1.0
f. Viewing films or videos	—	—	74.0	19.2	6.7	—
g. Oral presentation	—	1.9	62.5	22.1	10.6	2.9
h. Project work	2.9	1.0	51.9	26.9	13.5	3.8

Continued

Table 2-11 (continued)

Question	No response	Never	Less than once a week	Once a week	Several times a week	Every day
2. How often did your class do the following kinds of writing in social studies this year?						
a. Journal/diary entries	1.9	27.9	33.7	17.3	16.3	2.9
b. Stories	—	6.7	59.6	26.9	5.8	1.0
c. Writing about a personal experience	1.0	7.7	57.7	24.0	6.7	2.9
d. Copying notes from the board	3.8	11.5	51.9	21.2	11.5	—
e. Ideas from research	2.9	3.8	44.2	33.7	14.4	1.0
f. Ideas from class/group discussion	1.0	1.0	15.4	33.7	43.3	5.8

Question/Statement	No response	Yes	No
3. Were the following activities a part of the Grade 3 social studies program this year?			
a. Field trips	1.0	93.3	5.8
b. Simulation, role play, co-operative games	1.0	83.7	15.4
c. Listening to guest speakers	1.0	81.7	17.3
d. Special celebrations	—	84.6	15.4
e. Problem solving/decision making	—	99.0	1.0
f. Writing assignments	1.0	98.1	1.0
g. Completing handouts	—	96.2	3.8
h. Answering prepared questions	1.0	92.3	6.7
i. Research projects	1.0	90.4	8.7
j. Making models and/or puppets	1.0	63.5	35.6
k. Making maps and/or charts	1.0	98.1	1.0
l. Making posters and/or books	2.9	88.5	8.7
4. This year, the following items were readily available in my classroom for my students or for my use in planning and instruction.			
a. Atlas	1.0	84.6	14.4
b. Dictionary	—	99.0	1.0
c. Encyclopedias	4.8	57.7	37.5
d. Globe	1.0	84.6	14.4
e. Newspapers	2.9	57.7	39.4
f. Magazines	1.9	73.1	25.0
g. Travel brochures	5.8	41.3	52.9
h. Films, videos	1.9	90.4	7.7
i. Maps	—	99.0	1.0
j. Teacher Resource Manual	1.0	95.2	3.8
k. Recommended resources	11.5	78.8	9.6
5. This year, the following activities were carried out by the Grade 3 class as a part of the social studies unit of study.			
a. Writing a letter to a newspaper	9.6	71.2	19.2
b. Cleaning up an outdoor area	7.7	6.7	85.6
c. Recycling projects	—	85.6	14.4
d. Collecting items to help people in communities meet their needs	1.0	80.8	18.3
e. Fundraising	6.7	43.3	50.0
f. Writing a letter to decision makers	5.8	38.5	55.8

Examiner's Observations

Student Attitude Questionnaire —Contexts for Learning

On the student questionnaire, students indicated that they have a marked tolerance and openness to people different from themselves and to communities other than their own. A large majority of students are accepting of differing opinions and indicate a willingness to learn from others.

Student responses were lowest in the area of acceptance. For example, to the question "Do you ever make fun of other students?", 18.9% of the students answered "yes." This response indicates that students are not always kind to others.

Relationship between Student Attitudes and the Achievement Test

Students who met or exceeded the *acceptable standard* on the Grade 3 Social Studies Achievement Test appear to have positive attitudes in social studies too.

A definite pattern is found in 13 of the 15 attitudinal questions. Students achieving at the standard of excellence responded more positively to all questions than did students achieving at the acceptable standard, who in turn responded more positively than did students who did not meet any of the standards set on the achievement test. For example, to the question "Is something wrong when two people can't agree?", 47% of students achieving the standard of excellence said "no," 42.5% of students achieving the acceptable standard said "no," and 17% of students not meeting any standard said "no." This may be an indication that students who reach a higher level of achievement have positive attitudes.

The two exceptions to this trend were found in questions "Do you like working with students who are different from you?" and "Do you like to learn about special communities?" In response to these questions, the students who did not meet standards on the achievement test had more positive responses and the students achieving the *standard of excellence* were less positive.

Teacher Questionnaire— Contexts for Learning

Teacher responses to the questionnaire indicate that they choose from a wide variety of instructional strategies to help students learn. Teacher responses were lowest in making use of the library and in the teaching of library skills.

Results of the teacher questionnaire show that there is a wide variety of social studies related activities at the Grade 3 level. The diversity of these activities ranges from field trips to letter writing, recycling projects, and simulations.

Many types of writing are used in Grade 3 classrooms. Of these, teachers' responses indicate that journals and diaries are the least common. It is also interesting to note that copying notes from the blackboard is not frequently done.

Teachers use a wide range of learning activities that help students learn in Grade 3 classrooms. Up to 93.3% of classes go on field trips. In addition, simulation, guest speakers, and special celebrations are experienced by over 80% of classes. 63.5% of teachers surveyed involve their students in making models or puppets. Encyclopedias are available to 57.7% of classes and some specialized items, such as travel brochures, are available to 41.3% of classes.

Responses also indicate that 99% of classrooms involve students in problem solving/decision making activities.

The broad range of instructional strategies and learning activities used by teachers are indicators that students are actively engaged in their learning of social studies in Grade 3.

Relationship between Learning Environment and the Achievement Test

In this discussion, classrooms where most students met or exceeded the acceptable standard will be referred to as high achieving classrooms and classrooms where few students met or exceeded the acceptable standard will be referred to as low achieving classrooms.

It appears that students in 88% of high achieving classrooms receive more weekly classroom time for full class discussion than do students in low achieving classrooms. Students in high achieving classrooms are also provided with more opportunities to do library research than are students in low achieving classrooms.

The frequency of story writing, however, is inversely related to achievement. Students in high achieving classrooms in social studies tend to write fewer stories than do students in low achieving classrooms.

For three classroom activities—full class discussion, library research, and oral presentations—results indicate that students who are more directly involved in these learning acitivities tend to have higher achievement. For example, in classrooms where students actively obtain their writing ideas from research, achievement test results are significantly higher than are the results from classrooms where students do not research their own ideas but have topics assigned by their teacher. It is also interesting that fewer high achieving classrooms use oral presentations than do low achieving classrooms.

Another interesting finding is the frequency of using various instructional strategies. In 31.3% of low achieving classes, full class discussion was used on a daily basis whereas only 17.2% of high achieving classes used this strategy. Of low achieving classrooms, 53.1% used full class discussion several times a week whereas 75.9% of high achieving classrooms used this strategy. These differences reflect that teachers are using different strategies to meet the different needs of their students.

Section 3

Grade 6 English Language Arts

Introduction

In 1992 a number of assessments were carried out in Grade 6 English Language Arts. The achievement test was administered to students province-wide. Listening and viewing skills were assessed with a sample of Grade 6 English Language Arts students. As well, a sample of Grade 6 English Language Arts teachers and a sample of Grade 6 English Language Arts students participated in a pilot study to examine the relationship among various contexts for learning and their effect on achievement. The results from all these assessments follow.

Achievement Test General Description

The Grade 6 English Language Arts Achievement Test was in two parts. *Part A: Composition* was an 80-minute assignment consisting of a picture and a prompt for writing. The assessment was designed to encourage students to use the writing process. *Part B: Reading* was a 60-minute reading test consisting of 50 multiple-choice questions based on nine reading selections.

Statistics for the total test and for the components are based on the results achieved by 33 717 students: 30 952 wrote the regular form and 2 765 participated in the achievement-over-time study, as shown in Table 3-3. This section of the report answers the following questions:

- How many Grade 6 students wrote each form of the test or were absent and exempt?
- What percentage of Grade 6 students attained the *acceptable standard* or higher in English Language Arts according to provincial criteria?
- What percentage of Grade 6 students attained the *standard of excellence* or higher in English Language Arts according to provincial criteria?
- What did Grade 6 students know and what could they do in English Language Arts?
- What parts of the English Language Arts curriculum caused Grade 6 students difficulty?

Summary of Results

Results In Relation to Standards

Results show that 75.6% of students who wrote the test achieved the *acceptable standard* or higher and 9.5% achieved the *standard of excellence* or higher on the total test. These results were lower than expected.

Average Score

The average total test score was 60.6%, with a standard deviation of 14.0.

Content of the Test

Part A: Composition provided the students with a picture and a brief explanation as a prompt for their writing. Students chose the format (narrative, letter, or diary/journal entries) that would allow them to do their best writing while using their imagination and background experience. This part of the test was scored in five categories: Content, Organization, Sentence Structure, Vocabulary, and Conventions. Content and Organization were weighted to be worth twice as much as each of the other categories.

Part B: Reading questions were based on reading selections from fiction, non-fiction, drama, poetry, and visual media. These selections were chosen to reflect the interests and varying ability levels of students in Grade 6 classrooms. Canadian material was used extensively.

Test Blueprint

The test blueprint for *Part A: Composition* shows the reporting categories (scoring guide), a description of the writing assignment, and the emphasis of communication that was assessed.

Table 3-1
Grade 6 English Language Arts
Achievement Test Blueprint
Part A: Composition
June 1992

Reporting Category (Scoring Guide)	Description of Writing Assignment	Range of Marks
Content* (Selecting details to achieve a purpose) Events and/or actions should be plausible and appropriate to the student's purpose for communicating. The students should be able to describe characters and settings that are appropriate within the context of terms of reference established by the student. **Organization*** (Organizing details into a coherent whole) The student should be able to place events in a coherent sequence. **Sentence Structure** (Structuring sentences effectively) The student should be able to use a variety of sentence structures effectively in writing. **Vocabulary** (Selecting words and expressions correctly and effectively) The student should be able to use words and expressions effectively in writing. **Conventions** (Using the conventions of language correctly and effectively) The student should be able to communicate clearly in writing by adhering to appropriate spelling, grammar, punctuation, and capitalization.	The writing assignment follows a writing prompt, both of which the teacher reads aloud to the students. The assignment allows the student to select the format that will best fit his/her approach to the prompt.	5—Excellent 4—Proficient 3—Satisfactory 2—Limited 1—Poor INS—Insufficient

*These two categories are each weighted to be worth twice as much as each of the other three.

The test blueprint for *Part B: Reading* shows the distribution of questions according to the reporting categories and cognitive levels under which questions are classified.

Table 3-2
Grade 6 English Language Arts
Achievement Test Blueprint
Part B: Reading
June 1992

	Question Numbers by Cognitive Level			Total	
Reporting Category	**Literal**	**Inferential**	**Evaluative**	**Number of Questions**	**Percentage of Test**
1. **Identifying the Organization of Ideas** The student should be able to attend to and analyze elements of the author's organization such as sequence, purpose, comparison, cause/effect, and imagery in a reading selection.	7,23,27	13,25,49	20,45	8	16
2. **Analyzing Details** The student should be able to attend to and analyze the interrelationship of the details in a reading selection.	1,4,5,9, 10,11,14, 26,42	6,22,29, 39,41,44, 46	24,32,47 50	20	40
3. **Associating Meanings** The student should be able to associate meanings of words and expressions in context and evaluate the appropriateness of the author's word choice.		3,8,12,15, 28,30,38, 40	16,34,35, 36,37	13	26
4. **Synthesizing Ideas** The student should be able to synthesize the information within the reading selection to construct meaning. The student should be able to synthesize ideas from the entire reading selection in order to deduce the main idea and to predict plausible outcomes or conclusions.		2,31	17,18,19, 21,33,43, 48	9	18
Number of Questions	12	20	18	50	100
Percentage of Test	24	40	36	100	100

Student Participation

In June 1992, principals reported a total population of 37 837 students in Grade 6. Table 3-3 presents the number and percentage distribution of students who wrote the Grade 6 English Language Arts Achievement Test, who were absent, and who were exempted.

Table 3-3
Grade 6 English Language Arts
Student Participation
June 1992

Category	Number of Students		Percentage of Students	
Total Number of Students in Regular Programs*		33 717		89.1
Students Who Wrote the Regular Form**	30 952		81.8	
Students Who Wrote the Achievement-Over-Time Forms:	2 765		7.3	
Form M (Purple)—Same as the Regular Form	*938*		*2.5*	
Form L (Brown)	*913*		*2.4*	
Form K (Pink)	*914*		*2.4*	
Students Absent		1 526		4.0
Students Exempted from Writing		2 594		6.9
Categories of Exemption:				
1. Special Needs Students	987		2.6	
2. Course Was Not Taught This Term	13		0.0	
3. English as a Second Language Students	393		1.0	
4. Other (as approved by the Superintendent)	1 201		3.2	
Total Principals' Reported Population Test Day, June 1992:		37 837		100.0
Grade 6 Enrolment: September 30, 1991		37 533		

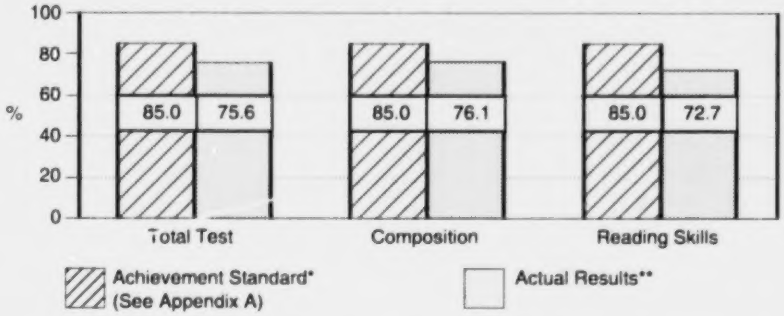
* Provincial results are based on test scores achieved by all students who wrote the Grade 6 English Language Arts test, including Francophone students, French Immersion students, and students in other programs.

** Regular Form refers to the unmodified 1992 test. The modified tests are described in Section 8 of this report.

Results in Relation to Standards

Figures 3-1 and 3-2 and Table 3-4 show the percentage of students achieving the *acceptable standard* or higher and the *standard of excellence* or higher on the total test and on components of the test. The levels of performance were lower than expected for both standards, with the exception of Reading Skills at the standard of excellence.

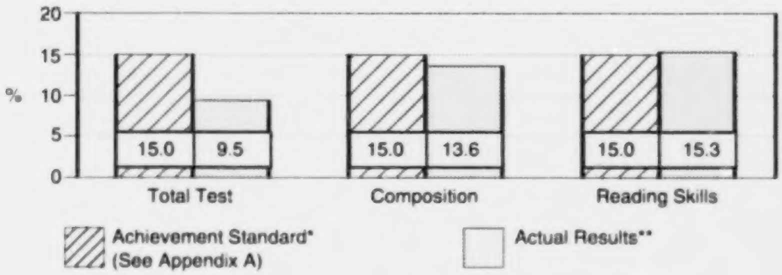
Figure 3-1
Grade 6 English Language Arts
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the acceptable standard or higher

** the percentage of students in the province who met the acceptable standard or higher

Figure 3-2
Grade 6 English Language Arts
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the standard of excellence or higher

** the percentage of students in the province who met the standard of excellence or higher

Table 3-4
Grade 6 English Language Arts
Students Achieving Standards on the Total Test and on Components of the Test
June 1992

Reporting Category	Maximum Possible Score	Provincial Assessment Standard* (Raw Score)	Provincial Achievement Standard** (Per cent)	Students Achieving Assessment Standard or Higher		
				Expected Number	Actual Number	Actual Per cent
Standard of Excellence or Higher						
Total Test***	100	80	15	5 058	3 203	9.5
Compostion Only	35	28	15	5 058	4 571	13.6
Reading Skills Only	50	40	15	5 058	5 157	15.3
Acceptable Standard or Higher						
Total Test***	100	51	85	28 659	25 496	75.6
Compostion Only	35	18	85	28 659	25 666	76.1
Reading Skills Only	50	25	85	28 659	24 509	72.7
Below Acceptable Standard on Both Components	N/A	N/A	N/A	N/A	3 886	11.5

* **The Provincial Assessment Standard** is a score determined by appropriate standard-setting procedures and is the lowest score a student must achieve for his/her performance to be judged "acceptable" and/or "excellent" in relation to curricular expectations. See Appendix A.

** **The Provincial Achievement Standard** refers to the percentage of students expected to meet or exceed the Provincial Assessment Standard. See Appendix A.

*** The Composition score is multiplied by 50/35 before being added to the Reading score so that both components are weighted equally.

It should be noted that the actual percentages of students achieving standards on the total test (9.5% and 75.6%) are based on the 33 717 students in the regular programs who wrote the test.

If, however, the percentages are based on the total population reported by principals (37 837), the percentages achieving standards on the total test would be:

8.5% achieving the *standard of excellence* or higher
67.4% achieving the *acceptable standard* or higher.

If the percentages are based on the September 30, 1991, Grade 6 enrolment (37 533), the percentages achieving standards on the total test would be:

8.5% achieving the *standard of excellence* or higher
67.9% achieving the *acceptable standard* or higher.

It is emphasized that the above percentages, based on total population and enrolment figures, present the lowest estimate of achievement. It is highly likely that some of the students who were absent, exempt, or not accounted for would have achieved standards. The absence of information on these students is nonetheless problematic.

The number of students achieving the *acceptable standard* or higher and the *standard of excellence* or higher for each jurisdiction was analyzed to determine whether achievement in jurisdictions was below, meeting, or exceeding provincial achievement standards. Jurisdictions classified as meeting provincial achievement standards were those for which the difference between the actual number of students and the expected number of students at or above standards was not statistically significant.

A 95% confidence interval was used; this criterion means that differences are only reported when there is a 5% or smaller probability that a difference of that size could occur by chance. The results are reported in Table 3-5. ***The percentage distributions in the tables are based on 211 jurisdictions (including private schools).***

Table 3-5 shows that 70.6% of jurisdictions were considered to have met or exceeded the Provincial Achievement Standard for the total test at the *standard of excellence*. As well, 51.2% of jurisdictions were considered to have met or exceeded the Provincial Achievement Standard for the total test at the *acceptable standard*. The finding that many jurisdictions were unable to meet expectations is not surprising given that the percentage of students in the whole province achieving or exceeding standards was below expectations.

Table 3-5
Grade 6 English Language Arts
Percentage Distribution of Jurisdictions* Meeting Achievement Standards on the Total Test and on Components of the Test
June 1992

	Percentage Distribution of Jurisdictions		
Component	**Not Meeting Provincial Achievement Standard (Per Cent)**	**Meeting Provincial Achievement Standard (Per Cent)**	**Exceeding Provincial Achievement Standard (Per Cent)**
Standard of Excellence or Higher			
Total Test	29.4	67.3	3.3
Composition Only	12.3	79.2	8.5
Reading Skills Only	5.7	81.5	12.8
Acceptable Standard or Higher			
Total Test	48.8	50.7	0.5
Composition Only	49.8	49.3	0.9
Reading Skills Only	56.9	43.1	0.0

* Jurisdictions with fewer than five students are excluded, as the statistical significance of the difference between the number actually meeting or exceeding the standard and the number expected to meet or exceed the standard when calculated and reported is not educationally meaningful.

Results for Part A: Composition

Results for *Part A: Composition* are most clearly understood in the context of the assignment students responded to and in the context of the scoring guides. The average raw score was 21.3 out of a possible 35, with a standard deviation of 5.5. Complete scoring guides are available from the Student Evaluation Branch, Alberta Education.

Scoring Reliability

Although the papers were scored on a one-marker system, 195 randomly selected papers were re-marked so that a second set of scores was available to confirm scoring consistency. Of the scores awarded on the second reading, 92.2% were identical to the original score on the same scale or varied by only one point. The one-marker system produces results that are reliable for groups of 25 or more students. Achievement test scores, however, are less reliable for individual students.

The results presented in Table 3-6 are best considered in terms of the percentage of students that markers judged to have presented work that was 3 (Satisfactory) or higher for any reporting category. It is possible to draw conclusions about local program strengths and weaknesses by comparing local percentages of 3 (Satisfactory) or higher scores in each reporting category with the provincial percentages.

Statistics presented in Table 3-6 are based on results achieved by 33 717 students.

Table 3-6
Grade 6 English Language Arts
Percentage Distribution of Scale Points by Scoring Category
Part A: Composition
June 1992

	Scoring Category				
Scale Point	**Content**	**Organization**	**Sentence Structure**	**Vocabulary**	**Conventions**
(5) Excellent	6.2	5.2	6.5	5.6	7.5
(4) Proficient	21.5	19.7	22.6	18.9	23.0
(3) Satisfactory	45.8	46.7	47.9	59.2	42.1
(2) Limited	23.1	24.5	19.1	14.6	22.6
(1) Poor	3.3	3.9	3.9	1.6	4.8
(INS) Insufficient	0.1	0.1	0.1	0.1	0.1

Results for Part B: Reading

Reporting Categories

Table 3-7 shows the total marks possible and the provincial raw score results for the reporting categories of the multiple-choice portion of the Grade 6 English Language Arts Achievement Test.

It is important to stress that the averages on the various reporting categories cannot be directly compared with one another. Rather, the results shown in Table 3-7 can best be used in conjunction with parallel tables in the jurisdiction and school reports. Variations in patterns of students' responses to questions can help to indicate strengths and weaknesses in local educational programs.

Statistics presented in this table are based on results achieved by 31 890 students (those who wrote the regular form and those who wrote Form M).

Table 3-7
Grade 6 English Language Arts
Raw Score Results by Reporting Category
Part B: Reading
June 1992

Reporting Category	Number of Questions	Raw Score Average	Raw Score Standard Deviation
Total	50	30.1	8.5
Identifying the Organization of Ideas	8	4.8	1.9
Analyzing Details	20	12.7	3.7
Associating Meanings	13	7.6	2.6
Synthesizing Ideas	9	4.9	1.8
Literal	12	8.6	2.5
Inferential	20	11.6	3.7
Evaluative	18	10.0	3.4

Percentage of Students Choosing Each Alternative

Table 3-8 shows the percentage of students who chose each alternative (A, B, C, and D) for each multiple-choice question. The correct response for each question is identified with an asterisk and the curriculum standard each question measures is specified. The questions are grouped by reporting category.

The results shown in Table 3-8 can best be used in conjunction with similar tables in the jurisdiction and school reports. Variations in patterns of students' responses to questions can help to indicate strengths and weaknesses in local educational programs.

Statistics presented in Table 3-8 are based on results achieved by 31 890 students (those who wrote the regular form and those who wrote Form M).

Table 3-8
Grade 6 English Language Arts
*Results for Individual Multiple-Choice Questions***
June 1992

Item	Distribution of Responses (%)				Category	Curriculum Standard
	A	B	C	D		
7	12.7	9.9	**65.6***	11.5	IO	understands the basic purpose of setting in a play
13	10.9	**54.9***	19.5	14.0	IO	infers the meaning of the imagery in a stanza of a poem
20	13.2	**54.9***	8.5	23.2	IO	makes a judgment about a cause-and-effect relationship from the context of a sentence
23	**65.4***	8.0	6.7	19.5	IO	recognizes a cause-and-effect relationship directly stated in a passage

* correct answer.

Continued

**The sum of the percentages for each question may be less than 100% because the No Response category is not included.

Category Legend: IO—Identifying the Organization of Ideas AD—Analyzing Details AM—Associating Meanings SI—Synthesizing Ideas

Table 3-8 (continued)

Item	Distribution of Responses (%)				Category	Curriculum Standard
	A	B	C	D		
25	13.7	12.6	7.3	**66.0***	IO	understands the author's purpose in repeating a phrase throughout a passage
27	12.9	7.2	17.3	**62.2***	IO	infers a cause-and-effect relationship from information in a passage
45	8.5	**53.1***	18.5	17.7	IO	makes a judgment about a cause-and-effect relationship from the context of a paragraph
49	9.4	11.3	15.6	**61.4***	IO	infers the author's purpose for using capital letters for specific words in a poem
1	2.8	17.4	**75.3***	4.4	AD	locates directly stated details of setting
4	3.3	6.3	**81.5***	8.8	AD	locates directly stated details of character motivation
5	2.5	**88.3***	4.9	4.2	AD	locates pertinent details related to motivation of the main character(s)
6	9.5	28.1	**57.4***	5.0	AD	uses pertinent details to infer character motivation
9	7.2	**78.9***	9.1	4.5	AD	locates directly stated details of character motivation
10	9.7	4.0	**76.2***	9.8	AD	locates directly stated details of scene
11	2.9	9.7	6.8	**80.4***	AD	locates directly stated details of character motivation
14	4.1	**65.3***	4.8	25.6	AD	locates directly stated details of setting in a sentence
22	**43.1***	16.3	16.7	23.3	AD	uses pertinent details to infer physical location stated in a passage
24	6.6	30.5	**50.6***	12.1	AD	uses pertinent details to make a judgment about the main character(s)
26	11.6	21.7	13.0	**52.9***	AD	locates directly stated details about places in the passage
29	7.8	5.1	**81.9***	4.6	AD	uses pertinent details to infer motivation of the minor character(s)
32	16.3	11.2	**61.7***	10.3	AD	uses pertinent details to make a judgment about the setting of a poem
39	8.9	12.7	**60.0***	17.4	AD	interprets a metaphor by relating pertinent details
41	19.5	21.8	**36.5***	21.0	AD	uses pertinent details to infer motivation of the major character(s)
42	11.6	7.7	14.0	**65.4***	AD	locates directly stated details about physical geography
44	17.3	30.9	15.4	**34.2***	AD	uses pertinent details to infer motivation of the main character(s)
46	18.4	11.3	10.5	**57.4***	AD	uses pertinent details to infer motivation of the main character(s)

*correct answer.

Continued

Category Legend: IO—Identifying the Organization of Ideas AD—Analyzing Details AM—Associating Meanings SI—Synthesizing Ideas

Table 3-8 (continued)

Item	Distribution of Responses (%)				Category	Curriculum Standard
	A	B	C	D		
47	6.2	**52.2***	14.0	25.1	AD	makes a judgment about how pertinent details of the story are interrelated
50	7.7	**73.7***	9.3	7.0	AD	uses pertinent details to make a judgment about print format
3	16.8	9.7	14.7	**58.6***	AM	infers the meaning of a word from its context in a sentence
8	**43.9***	31.4	16.6	8.0	AM	infers the meaning of an expression from its context in a passage
12	**86.1***	8.3	1.4	4.0	AM	infers the meaning of a word from its context in surrounding sentences
15	10.4	**50.2***	21.2	18.1	AM	infers the meaning of an expression from its context in a stanza
16	11.6	18.4	3.4	**66.5***	AM	judges the most likely meaning of a word from its context in a stanza
28	**52.1***	18.5	18.8	10.1	AM	infers the meaning of an expression from its context in a sentence
30	11.8	**64.7***	8.4	14.5	AM	infers the meaning of a word from its context in a sentence
34	17.4	**51.4***	6.8	23.9	AM	judges the most likely meaning of a word from its context in a poem
35	12.3	12.2	5.2	**69.7***	AM	judges the most likely meaning of an expression from its context in a poem
36	**76.6***	12.9	6.0	4.0	AM	judges the most likely meaning of an expression from its context in a poem
37	30.8	12.6	**50.6***	5.4	AM	judges the most likely meaning of an expression from its context in a poem
38	**44.5***	15.8	31.3	7.4	AM	infers the meaning of a word from its context in the surrounding sentences
40	16.9	8.6	24.5	**49.0***	AM	infers the meaning of a word from its context in the surrounding sentences
2	**93.0***	1.2	4.0	1.7	SI	synthesizes information from a sentence to draw a conclusion
17	**56.8***	13.4	4.7	24.9	SI	synthesizes information to draw a conclusion about events in a selection
18	15.5	**42.3***	34.5	7.6	SI	synthesizes information about character motivation from an entire selection
19	14.8	18.3	**56.9***	9.7	SI	synthesizes information in a passage to judge the meaning of a metaphor
21	9.7	33.9	9.7	**46.5***	SI	makes a judgment about character motivation based on synthesis of information within a selection
31	16.6	**65.3***	7.4	10.1	SI	synthesizes information from a passage to infer character motivation

*correct answer.

Continued

Category Legend: IO—Identifying the Organization of Ideas AD—Analyzing Details AM—Associating Meanings SI—Synthesizing Ideas

Table 3-8 (continued)

Item	Distribution of Responses (%)				Category	Curriculum Standard
	A	B	C	D		
33	13.4	14.7	**53.3***	18.2	SI	draws a conclusion about characters based on the synthesis of information from an entire selection
43	**30.8***	18.9	40.2	8.8	SI	makes a judgment about a plausible outcome based on synthesis of information from an entire selection
48	19.3	12.3	**49.7***	15.7	SI	synthesizes information from an entire selection to judge the author's purpose

*correct answer.

Category Legend: IO—Identifying the Organization of Ideas AD—Analyzing Details AM—Associating Meanings SI—Synthesizing Ideas

Examiner's Observations

Achievement Test

Although the overall quality of writing in English Language Arts in 1992 is quite comparable to that done in 1988, not enough students are meeting the acceptable standard. Those teachers who marked the tests were disappointed with many of the papers. They observed specifically that students are weak in the following areas: conventions (mechanics and grammar), sentence structure (grammatical correctness and variety), and conclusions (appropriate closure for the writing). The markers agreed that students showed real strength in the areas of introduction and vocabulary. A small number of students wrote clearly excellent papers. They were lively, imaginative, and technically very well written. The quality of these papers far exceeded the expectations for students in a Grade 6 classroom.

A discussion of specific areas of strength and difficulty for Grade 6 students follows.

1. The Wawaniki lived

2.8 **A.** in the forest
17.4 **B.** in the far north
75.3 ***C.** near the sunrise
4.4 **D.** on the southern seashores

41. Terry's "symbolic act" (line 12) was to

19.5 **A.** complete a personal challenge
21.8 **B.** continue to believe in his dream
36.5 ***C.** dip his artificial leg into the Atlantic Ocean
21.0 **D.** raise one dollar from each Canadian

Acceptable Standard—Sample Questions and Commentary

Question 1 required students to locate or identify the setting of a passage. Students achieving the *acceptable standard* can readily do this.

Question 41 required students to infer the motivation of the main character. Students achieving the *acceptable standard* had difficulty with character motivation that was not directly stated.

The strengths of students who demonstrated an *acceptable standard* of performance include an ability to

- extract directly stated details of setting, scene, and character motivation (see question 1)
- recognize cause-and-effect relationships when directly stated
- recognize meanings of words and phrases from the context of the material

However, many of these students had difficulty

- inferring meanings of words and phrases from abstract material
- inferring character motivation
- making a judgment about the main idea of a reading selection
- making a judgment about plausible outcomes in a reading selection
- understanding a poem

46. William took comfort if "he heard some slower unfortunate clomping behind" him (lines 24–25) because he

18.4 **A.** felt sorry for the slower runners
11.3 **B.** was ahead of some of the fast runners
10.5 **C.** knew that he would cross the finish line first
57.4 ***D.** knew that he would not finish last in the race

43. This article suggests that Terry's dream was realized when

30.8 ***A.** Canadians donated millions of dollars for cancer research
18.9 **B.** he was the first to try to run across Canada
40.2 **C.** Canadians became more aware of people with disabilities
8.8 **D.** he became very famous

Standard of Excellence—Sample Questions and Commentary

Question 46 required students to infer character motivation. Students achieving the *standard of excellence* had no difficulty making this type of inference.

Question 43 required students to make a judgment about plausible outcomes based on their ability to synthesize information in the reading selection. A large number of students achieving the *standard of excellence* had difficulty doing this. Too many were drawn to alternative C.

Students achieving the *standard of excellence* could

- infer character motivation (see question 46)
- infer meanings of words and phrases
- make a judgment about the main idea of a reading selection

However, many of these students had difficulty

- interpreting highly abstract ideas and synthesizing the information
- making a judgment about plausible outcomes in a reading selection (see question 43)

Issues

During the 1992 marking session, teachers were asked to comment on both parts of the test. Although many teachers were happy with the writing prompt and the choice allowed in writing format, they expressed concern about the 80-minute time limit. In many cases, students' "good copy" writing was not as well done as their "rough copy" writing, and at best was merely a recopying of the original. A possible solution is to have students write only one legible copy and make any changes directly on that work. This would make the 80-minute time limit less of a concern.

Another issue markers raised was that the written test did not accommodate some of the processes, such as brainstorming and group sharing, that are followed in the classroom. In 1993, we plan to allow students in groups of two to four about 10 minutes to discuss the assignment before they start writing.

Finally, teachers suggested that students should do the reading and writing parts of the test on separate days. Starting in 1993, we expect to administer the Language Learning Achievement Test over two days.

Listening and Viewing Skills Test

As they attempt to make sense of their learning experiences in all subject areas, students use language to explore, construct, and communicate ideas and information. The learning process, through its focus on meaning, enlarges the possibilities for the natural integration of all modes and strands of language, of which listening and viewing are integral parts. These connections are essential for effective and efficient language learning. Although the Language Learning component of the *Program of Studies* does not separate the "arts" of language into distinct strands, the achievement tests have historically concentrated on the reading and writing strands. Because listening and viewing are also critical parts of language learning, we wanted to assess these "arts" of language as well.

To assess these skills, Grade 6 teachers helped develop a listening and viewing skills test. The test was administered to a sample of 565 students attending 15 schools in the province. Ten Grade 6 English Language Arts lead teachers from across the province were involved in determining what performance on the listening and viewing skills test would reflect achievement beyond Grade 6 expectations, achievement meeting Grade 6 expectations, and achievement not yet meeting Grade 6 expectations.

General Description

Listening Skills

The listening skills component required the students to listen to three pieces of literature. After hearing the fiction and nonfiction selections, students answered some multiple-choice questions. After hearing the poetry piece, they retold what they heard. In addition, students listened to some directions and did what the directions asked them to do. Table 3-9 presents the results of the listening skills component.

Table 3-9
Grade 6 English Language Arts
Listening Skills: Distribution of Students in Relation to Grade 6 Expectations

Student Achievement	Number of Students	Percentage of Students
Students Who May Be Achieving Beyond Grade 6	17	3.0
Students Who Are Achieving at Grade 6	439	77.7
Students Who Are Not Yet Achieving at Grade 6	109	19.3
Total	565	100.0

Examiner's Observations

Listening Skills

Students who have met Grade 6 expectations are able to retell a great many significant details and events. Most of the time, the sequence of the events and/or details is correct. These students understand the denotative meanings of words they have heard; however, they may experience difficulty with the connotative meaning of words. Students who have met Grade 6 expectations can paraphrase a spoken message but will experience some difficulty doing so. They can also follow oral directions but will make a few errors in the process. These students, however, generally lack some of the confidence in their general listening skills typically found in students achieving beyond Grade 6. As a result, their critical listening skills are not quite so well developed.

Students who are achieving beyond Grade 6 expectations are consistently able to retell all significant details and events in proper order. These students understand both denotative and connotative meanings of words that they have heard. They can paraphrase a spoken message with no difficulty and follow oral directions with no errors. In addition, they display confidence and competence in their general listening skills. As a result, they are excellent critical listeners.

Students who have not yet met Grade 6 expectations are usually able to retell only a few significant details and events. They have a confused idea of sequence. These students typically have a difficult time understanding all but the most basic vocabulary. Connotative meanings are not understood at all. Paraphrasing for these students is difficult because they probably had considerable difficulty understanding what they heard.

General Description

Viewing Skills

For the viewing skills component of the assessment, students were given two pictures. They had to describe what they saw in each picture and then compare and contrast how they felt when they looked at both pictures. In addition, they had to look at a cartoon and explain what message they got from it.

The information collected was analysed by Grade 6 teachers. From the analysis, teachers were able to describe students' performances that reflect expectations for Grade 6, beyond Grade 6, and not yet at Grade 6. Table 3-10 presents the results of the viewing skills component.

Table 3-10
Grade 6 English Language Arts
Viewing Skills: Distribution of Students in Relation to Grade 6 Expectations

Student Achievement	Number of Students	Percentage of Students
Students Who May Be Achieving Beyond Grade 6	33	5.8
Students Who Are Achieving at Grade 6	359	63.5
Students Who Are Not Yet Achieving at Grade 6	173	30.6
Total	565	100.0

Examiner's Observations

Viewing Skills

Those students who have met Grade 6 expectations are able to communicate in writing information they derive from a visual presentation; however, their statements tend to be less than specific. When asked to describe a picture, these students are able to pick out general details but the subtleties will escape their detection. They can compare and contrast different pictures only if the pictures are relatively straightforward and not too detailed.

Students who are achieving beyond Grade 6 are able to communicate in writing information they derive from a visual presentation. The information is quite sophisticated because these students bring a broad general knowledge base to their understanding. When asked to describe a picture, these students are able to pick out the most minute details. They also show an ability to compare and contrast different pictures and to provide many appropriate details.

Students who have not yet met Grade 6 expectations demonstrate a limited understanding of what they view. Thus, they communicate in writing in only a superficial manner. When asked to describe a picture, these students pick out only the most obvious features. They are not able to compare and contrast different pictures unless the pictures are very basic.

Relationship between Students' Listening and Viewing Skills and the Achievement Test

We were able to compare the results of 500 of the 565 students who participated in the listening and viewing assessment with their Grade 6 English Language Arts achievement test results. The students who achieved or exceeded standards on the total achievement test did not, in most cases, have corresponding strengths in listening and viewing skills.

Although 9.0% of the 500 students achieved the standard of excellence or higher on the achievement test, only 2.8% of these 500 students achieved beyond Grade 6 in listening skills and 6.6% achieved beyond Grade 6 in viewing skills. Similarly, a smaller percentage of students achieved Grade 6 expectations on the viewing test (63.6%) than achieved the *acceptable standard* but not the *standard of excellence* on the achievement test (72.8%).

In listening skills, more students achieved Grade 6 expectations (80.2%) than achieved the acceptable standard (72.8%) on the achievement test.

These results also indicate that listening and viewing skills are not strongly tied to each other. Only 63% of students were classified in the same category on both listening and viewing components. None of the 565 students performed beyond Grade 6 expectations on both components.

That students' viewing skills are weak supports some teachers' comments that although students are generally exposed to a wider variety of visual stimuli than students in the past have been, they have not necessarily developed good visual discrimination skills.

Student Attitudes Toward Language Learning

General Description

In June 1992, 366 Grade 6 English Language Arts students from 10 schools in the province participated in a pilot study that surveyed students' attitudes on various language learning issues. The results from the survey are presented in Table 3-11.

Table 3-11
Grade 6 English Language Arts
Survey on Attitudes Toward Language Learning
Percentage Distribution of Student Responses

	Statement	No response	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.	To be a success in life, you need to be able to read.	0.0	0.3	1.4	6.8	33.1	58.5
2.	I think reading is an important skill.	0.0	0.3	0.0	2.5	38.3	59.0
3.	Everyone needs to know how to read.	0.3	1.6	4.1	13.4	33.6	47.0
4.	Out of all the activities I do in my academic subjects, I like reading best.	0.0	10.1	22.1	32.2	20.5	15.0
5.	I am a good writer.	1.1	5.2	13.1	33.6	37.4	9.6
6.	I enjoy reading my written work to:						
	a. my classmates.	1.6	12.3	19.7	19.9	31.7	14.8
	b. other students in my school.	4.1	19.1	27.6	24.3	20.8	4.1
	c. teacher(s) and/or principal.	3.3	13.1	23.8	25.4	26.8	7.7
	d. other adults.	4.1	12.3	21.0	25.4	29.5	7.7
	e. my family.	2.7	6.6	5.5	13.1	37.4	34.7

Continued

Table 3-11 (continued)

Statement	No response	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
7. I enjoy having my writing "published":						
a. in my classroom.	2.7	7.4	6.8	16.4	46.4	20.2
b. in my school.	3.6	9.0	15.3	20.5	33.9	17.8
c. in the community.	4.4	17.2	16.9	24.0	22.1	15.3
8. I enjoy doing:						
a. book reports/reviews.	4.4	15.6	14.8	23.2	28.7	13.4
b. movie reviews.	4.1	7.1	13.1	25.4	30.6	19.7
9. In school I enjoy writing:						
a. reports	1.9	16.7	15.3	21.0	31.4	13.7
b. essays.	3.0	19.1	24.9	30.6	18.3	4.1
c. editorials.	4.4	18.3	21.6	39.6	13.9	2.2
d. newspaper articles.	4.4	16.7	20.2	30.1	22.4	6.3
e. journals/diaries.	3.3	13.9	14.8	18.3	35.0	14.8
f. letters.	2.7	5.7	8.7	17.2	41.8	23.8
g. stories.	1.4	4.9	5.7	14.8	37.2	36.1
h. plays.	3.0	12.0	11.7	24.3	27.3	21.6
i. poems.	3.3	16.7	16.1	16.9	29.0	18.0
j. speeches.	7.7	24.9	21.0	21.9	14.8	9.8

Statement	No response	Never	Seldom	Sometimes	Usually	Always
10. I like to:						
a. talk about books I have read.	1.9	10.9	18.0	41.5	20.8	6.8
b. talk about my favorite author(s).	1.9	28.7	33.1	23.0	7.7	5.7
c. listen to literature being read.	3.3	25.4	21.3	23.5	16.1	10.4
d. see movies based on books that I have read.	1.4	8.2	10.4	27.9	23.2	29.0
e. read during my summer vacation.	2.2	15.8	13.4	20.2	20.2	28.1
11. I choose my books based on the:						
a. author.	3.3	27.9	20.8	24.9	17.8	5.5
b. type of reading material (e.g., mysteries, science fiction, fantasy).	1.9	7.1	5.7	16.1	28.4	40.7
c. topic of reading material (e.g., animal stories, stories about characters the same age as me, stories about activities I like).	1.6	7.1	11.7	26.5	29.5	23.5

Continued

Table 3-11 (continued)

	Statement	No response	Never	Seldom	Sometimes	Usually	Always
12.	In my leisure time I enjoy writing:						
	a. reports.	2.7	49.7	28.1	14.2	3.8	1.4
	b. essays.	3.3	56.3	27.9	9.0	3.0	0.5
	c. editorials.	3.6	57.9	27.0	10.9	0.5	0.0
	d. newspaper articles.	4.9	52.5	23.5	13.9	3.8	1.4
	e. journals/diaries.	3.3	28.4	15.3	23.0	17.8	12.3
	f. letters.	3.0	13.7	14.5	28.7	24.9	15.3
	g. stories.	2.5	19.7	18.9	25.4	20.2	13.4
	h. plays.	4.1	44.8	20.5	15.8	7.4	7.4
	i. poems.	3.6	39.9	20.5	20.2	10.4	5.5
	j. speeches.	8.7	53.6	20.8	10.7	3.0	3.3
13.	I enjoy going to:						
	a. live theatre.	4.6	23.5	12.6	21.9	14.2	23.2
	b. concerts.	4.1	11.2	11.2	15.6	20.2	37.7
	c. symphony.	4.6	49.7	18.3	14.5	4.6	8.2
	d. opera.	6.3	55.7	14.2	11.2	5.2	7.4
	e. movies.	2.2	0.3	3.0	8.5	21.0	65.0
	f. museums.	3.6	12.3	13.9	25.4	21.9	23.0
	g. art galleries.	7.7	30.6	20.8	16.1	9.6	15.3
14.	I put my writing in a folder.	2.2	13.4	18.3	26.2	20.8	19.1
15.	I record my ideas and thoughts in a writing log.	2.5	51.6	20.8	18.6	4.6	1.9
16.	In my spare time:						
	a. I read for my own enjoyment and pleasure.	1.1	10.9	12.0	21.0	22.7	32.2
	b. I read to get more information about something.	2.2	12.0	21.0	35.8	18.0	10.9
	c. I read to learn how to do something specific.	2.7	12.0	20.5	34.4	19.1	11.2
17.	I use the school library to choose:						
	a. free reading materials (e.g., novels, stories).	0.8	4.4	6.8	16.7	38.8	32.5
	b. information books and materials (e.g., encyclopedias, atlases).	2.7	11.5	17.8	29.8	23.8	14.5
18.	I use the public library to choose:						
	a. free reading materials (e.g., novels, stories).	2.7	11.7	12.0	16.7	23.8	33.1
	b. information books and materials (e.g., encyclopedias, atlases).	4.4	25.4	15.0	23.5	17.8	13.9
	c. records and/or tapes.	4.9	42.6	21.9	17.2	5.7	7.7
	d. videos.	6.6	48.1	18.9	12.3	6.6	7.7
	e. talking books.	5.7	63.9	15.3	8.2	3.3	3.6

Continued

Table 3-11 (continued)

	Statement	No response	Never	Seldom	Sometimes	Usually	Always
19.	I read:						
a.	magazines.	3.3	4.4	7.7	27.9	26.0	30.9
b.	newspapers.	3.3	10.9	16.9	32.2	18.3	18.3
c.	science fiction.	4.1	15.0	16.9	27.3	18.3	18.3
d.	fantasy.	3.8	14.5	15.3	27.3	20.2	18.9
e.	poetry.	3.3	31.4	24.6	22.1	10.7	7.9
f.	plays.	5.2	39.3	24.0	20.2	7.4	3.8
g.	biographies.	3.8	41.3	23.0	17.2	9.3	5.5
h.	historical fiction.	4.9	30.9	26.0	19.1	9.3	9.8
i.	mysteries.	3.8	8.5	6.6	22.7	23.0	35.5
j.	informational materials (e.g., encyclopedias, atlases).	4.9	22.7	27.6	24.0	12.8	7.9
k.	romance novels.	4.1	43.4	14.5	16.7	10.1	11.2
l.	comic books.	3.6	4.6	9.3	25.7	21.0	35.8
m.	labels on packages.	5.2	27.0	18.0	20.8	13.1	15.8
n.	instructions.	3.3	13.9	16.7	20.5	19.1	26.5
o.	billboards.	3.0	21.3	18.6	27.0	14.8	15.3
p.	catalogues.	3.8	12.3	16.7	27.0	20.5	19.7

Examiner's Observations

Student Attitude Questionnaire —Contexts for Learning

Results indicate that the students surveyed overwhelmingly believe that everyone needs to know how to read, and over 97% say that reading is an important skill. Analysis of the student questionnaires indicates that the majority of students (69.1%) usually or always choose their leisure reading material by genre, and the most preferred reading materials are magazines, mysteries, and comic books. Students use school and public libraries mainly for choosing leisure reading materials. In both school and leisure time, students' favored types of writing are journals/diaries, letters, and stories. Of these, letter-writing is most preferred during leisure time and story-writing is more popular in school. Many students keep their writing in a folder, although fewer than 7% regularly record their thoughts and ideas in a writing log.

The majority of students enjoy having their writing "published" in the classroom (66.6%) or in their own school (51.7%). However, few students (37.4%) enjoy having their writing published in the greater community. This could indicate that in more familiar settings, where students know the expectations, they have greater confidence to take the risks that could accompany public display.

The results of the survey also revealed that although students generally enjoy writing assignments in school, in their leisure time they choose writing activities less often than reading.

Regardless of their writing ability, 72.1% of students enjoy reading their written work to their families. However, fewer than 50% of students enjoy reading their written work to other people. This is a further reflection of students' comfort with what they perceive as "safe" environments.

Relationship between Student Attitudes and the Achievement Test

We were able to compare the results of 320 of the 366 students who participated in the attitude survey with their Grade 6 English Language Arts Achievement Test results. Of the 33 students who achieved the *standard of excellence* or higher on the total achievement test, 60.6% liked reading better than any other activities done in the classrooms. This is sharply contrasted by students who achieved the *acceptable standard* but not the *standard of excellence* (N=234) on the total test or those who performed below the *acceptable standard* (N=53), where only 34.6% and 28.3%, respectively, liked reading better than other activities done in the classroom.

Students achieving or exceeding the *standard of excellence* on the total test tend to be good and enthusiastic readers. Examiners were not surprised to find that almost all students (93.9%) achieving the *standard of excellence* or higher indicate that they read for their own enjoyment and pleasure in their spare time, whereas the same is true for only 58.1% of students at the *acceptable standard* but not the *standard of excellence* and 26% of those performing below the acceptable standard. Similar findings emerged from the questions related to reading for enjoyment during the summer, where 69.7% of students at the *standard of excellence* or higher, 51.5% of students at the *acceptable standard* but not the *standard of excellence*, and 30% of students below acceptable standard, responded affirmatively.

Regarding leisure time reading, it is interesting to note that students who are below the acceptable standard read in order to learn something specific in their spare time more often (38%) than do students who are at the *acceptable standard* but not the *standard of excellence* (31.1%) or at the *standard of excellence* or higher (28.1%). This reinforces the belief held by many teachers that reading, especially for weaker students, must have a real purpose in order for students to actively engage in it.

Teacher Questionnaire—Contexts for Learning

In July 1992, 141 teachers from across the province who were marking the composition component of the Grade 6 English Language Arts Achievement test participated in a pilot study that surveyed the instructional strategies and learning environments they provided in the classroom. The results from the survey are presented in Table 3-12.

Table 3-12
Grade 6 English Language Arts
Teacher Survey on Instructional Practices and Learning Environments
Percentage Distribution of Teacher Responses

	Question	No Response	Never	Less than once a week	Once a week	Several times a day	Every day
1.	How often did your students write in L.A. this year?	0.7	0.0	1.4	5.0	53.2	39.7
2.	How often did your students write in a journal for L.A. this year?	0.7	11.3	21.3	19.1	33.3	14.2
3.	How often did your students use the library in the school this year?	1.4	0.0	4.3	29.8	61.7	2.8
4.	How often did you set aside a special time to read to your students this year?	1.4	0.7	8.5	11.3	43.3	34.8
5.	How often did your students do silent reading (USSR) this year?	0.7	0.7	2.1	9.9	29.1	57.4

Continued

Table 3-12 (continued)

Question	No Response	Never	Rarely	Sometimes	Often	Always
6. This year, how often did your students have a choice about what they wrote?	0.7	0.0	0.7	23.4	63.1	12.1
7. This year, how often did your students do the following before they wrote?						
a. Brainstorm	0.7	0.0	3.5	36.9	42.6	16.3
b. Discuss in groups	0.7	1.4	6.4	37.6	42.6	11.3
c. Do a story map	1.4	3.5	22.0	41.1	23.4	8.5
d. Go to the library to do research	1.4	0.7	12.8	46.1	37.6	1.4
e. Listen to the teacher	0.0	0.0	5.7	31.2	43.3	19.9
f. Watch a movie	0.0	5.0	52.5	36.9	5.7	0.0
g. Go on a field trip	0.0	12.1	58.2	27.7	2.1	0.0
8. How often did your students use a computer at school to do the following this year?						
a. All of their writing (from draft to final copy)	2.8	25.5	34.8	26.2	10.6	0.0
b. Some of the work for L.A.	0.0	12.1	36.2	36.2	15.6	0.0
c. Editing their writing	0.0	23.4	31.9	32.6	12.1	0.0
d. Checking their spelling	1.4	34.0	33.3	22.7	7.8	0.7
e. Typing the final copy of their writing	0.0	14.2	25.5	42.6	16.3	1.4
f. Using a program for reading	0.0	48.9	28.4	19.1	3.5	0.0
g. Using a program for spelling	1.4	44.7	31.2	16.3	5.0	1.4
9. This year, how often did your students write a number of drafts before handing in the final product?	2.8	0.0	5.7	24.1	44.7	22.7
10. This year, how often did you have conferences with your students about their writing?	0.0	0.7	10.6	36.9	44.7	7.1
11. How often did your students have their writing published in the classroom, school, or community this year?	0.7	2.1	9.2	39.7	44.7	3.5
12. How often did your students do the following in L.A. this year?						
a. "Readers theatre"	1.4	19.9	29.1	40.4	8.5	0.7
b. Drama	2.1	2.8	19.9	51.1	22.0	2.1
c. View films or videos	0.7	0.0	17.0	61.7	19.9	0.7
d. Puppet theatre	1.4	50.4	26.2	17.7	4.3	0.0
e. Story telling	2.8	5.7	21.3	44.7	24.8	0.7
f. Chanting	2.1	42.6	34.0	17.7	2.8	0.7
g. Debates	1.4	5.7	36.9	41.1	14.9	0.0
h. Oral presentations	0.7	0.0	2.1	36.2	51.8	9.2
i. Role playing	0.0	0.7	13.5	50.4	31.9	3.5

Continued

Table 3-12 (continued)

Question	No Response	Never	Rarely	Sometimes	Often	Always
13. I know that my students were using their writing skills in the following subject areas:						
a. Science	2.1	0.0	11.3	32.6	39.0	14.9
b. Social Studies	1.4	0.0	2.1	12.1	52.5	31.9
c. Math	2.8	9.9	34.0	36.2	13.5	3.5
d. Physical Education	12.1	44.0	33.3	9.2	0.7	0.7
e. Health	3.5	0.7	12.1	48.2	29.8	5.7

Statement	No response	Yes	No
14. This year, the following materials were available in the classroom for the students:			
a. Magazines	0.7	85.1	14.2
b. Newspapers	0.7	78.0	21.3
c. Dictionaries	0.7	98.6	0.7
d. Thesaurus	0.7	87.9	11.3
e. Encyclopedias	2.1	68.1	29.8
f. Atlas/Globe	1.4	94.3	4.3
g. Computer	2.1	51.8	46.1
h. Poetry	2.1	89.4	8.5
i. Fiction books	1.4	95.7	2.8
j. Non-fiction books	1.4	93.6	5.0
k. Student-published books	5.0	68.1	27.0
15. This year, I took my students on field trips to:			
a. Live theatre	6.4	58.9	34.8
b. Concert	12.8	36.2	51.1
c. Symphony	16.3	21.3	62.4
d. Opera	19.1	19.9	61.0
e. Movie	19.9	19.1	61.0
f. Museum	14.2	46.8	39.0
g. Art gallery	25.5	19.9	54.6
16. My students had a portfolio or writing folder with samples of their writing.	0.0	94.3	5.7
17. My students were writing for different audiences (e.g., younger students, peers, teachers, community).	0.7	85.8	13.5

Statement	No response	Less than 1 hour	1-2 hours	2-4 hours	More than 4 hours
18. My students spent the following amounts of time reading in the content areas each week:	1.4	2.8	29.8	44.7	21.3

Examiners learned that 96.4% of the teachers surveyed provide silent reading (USSR) at least once per week. Classroom environments tend to be "print rich" with magazines, newspapers, both fiction and non-fiction books, as well as reference materials; although classes of high and medium achieving students tend to have of these resources slightly more than do classes of low achieving students.

It was interesting to see that 78.1% of teachers responding to the survey indicated that they set aside special time to read to their students several times per week or even every day. Only 26.5% of students indicated that they usually or always like to listen to literature being read.

Relationship between the Learning Environment and the Achievement Test

We matched the teachers who responded to the survey with the Grade 6 English Language Arts achievement test results of the students in their classrooms. For the following analysis we included only the 94 teachers for whom we had achievement test results for 12 or more of their students. For discussion of this analysis, classrooms where at least 85% of students met or exceeded the *acceptable standard* are referred to as high achieving classrooms (N=34) and those classrooms where fewer than 75% of students met or exceeded the *acceptable standard* are referred to as low achieving classrooms (N=31). The remaining classrooms will be referred to as medium achieving classrooms (N=29).

Students in 72.7% of high achieving classrooms use the library several times a week or every day, whereas only 56.7% of low achieving classrooms use the library with the same frequency. In 78.8% of the high achieving classrooms, students often or always listen to the teacher before beginning writing. The same is true for only 60% of students in low achieving classes. Teachers of high achieving classes also have their students write multiple drafts more often than do teachers of medium and low achieving classes.

All teachers surveyed give their students a choice about what they write, but teachers of high achieving classes give their students a choice less often (66.6%) than do teachers of medium achieving classes (85.8%) or low achieving classes (76.7%). Some teachers reflected that this might be expected since students write with greater confidence when assignments are clearly delineated. Other teachers noted that when repeatedly allowed to make their own writing choices, students tend to use the writing styles with which they feel most comfortable and therefore do not gain practice and experience with those less familiar.

Section 4

Grade 9 Mathematics

Introduction

In 1992 a number of assessments were carried out in Grade 9 Mathematics. The achievement test was administered to students province-wide. Performance assessment tests were administered in a sample of Grade 9 Mathematics students. As well, a sample of Grade 9 Mathematics teachers and a sample of Grade 9 Mathematics students participated in a pilot study to examine the relationship among various contexts for learning and their effect on achievement. The results from all these assessments follow.

Achievement Test
General Description

The Grade 9 Mathematics Achievement Test was divided into two parts. Part A had 40 multiple-choice questions each with four alternatives. Part B had 10 numerical-response questions, which required students to calculate an answer and then record it on the answer sheet.

The statistics for the total test and for the various components are based on the results achieved by 27 888 students: 24 523 wrote the regular form and 3 365 participated in the achievement-over-time study, as shown in Table 4-2. This section of the report provides answers to the following questions:

- How many Grade 9 students wrote each form of the test or were absent and exempt?
- What percentage of Grade 9 students attained the *acceptable standard* or higher in Mathematics to provincial criteria?
- What percentage of Grade 9 students attained the *standard of excellence* or higher in Mathematics according to provincial criteria?
- What did Grade 9 students know and what could they do in Mathematics?
- What parts of the Mathematics curriculum caused Grade 9 students difficulty?

Summary of Results

Results in Relation to Standards

Results show that 67.4% of students who wrote the test achieved the *acceptable standard* or higher and 8.9% achieved the *standard of excellence* or higher on the total test. These results were lower than expected for the both standards.

Average Score

The average total test score was 57.0%, with a standard deviation of 19.8%. The average total raw score was 27.9 marks out of a possible 49, with a standard deviation of 8.2.

Content of the Test

The Grade 9 Mathematics Achievement test was designed to reflect the Grade 9 Mathematics curriculum standards. The scope of the test was limited to curriculum objectives that could be efficiently measured on a paper and pencil test.

The test consisted of 50 questions in five content areas: Number Systems and Operations, Ratio and Proportion, Measurement and Geometry, Data Management, and Algebra. The questions were designed to measure achievement in four cognitive levels: Content, Knowledge, and Quantitative Literacy; Procedural Knowledge; Conceptual Understanding; and Problem Solving. These cognitive levels were, in turn, grouped under two major components:

- Knowledge and Skills
- Application and Problem Solving

Test Blueprint

Table 4-1 presents the blueprint used to develop the Grade 9 Mathematics Achievement Test. Classification of each question by component and cognitive level is indicated in the table.

Table 4-1
Grade 9 Mathematics
Achievement Test Blueprint
June 1992

Curriculum Component	Reporting Category				Total Number of Questions and Test Emphasis
	Knowledge and Skills		Application and Problem Solving		
	Content, Knowledge, and Quantitative Literacy	Procedural Knowledge	Conceptual Understanding	Problem Solving	
Number Systems and Operations	1, 2, 10	1s,* 2s	3, 4, 5, 6, 7	8, 9, 5s	13 (26%)
Ratio and Proportion	11, 16	4s	12, 13, 14	15, 3s, 6s	9 (18%)
Measurement and Geometry	17, 22	18, 19	20, 21, 7s, 8s, 9s	23, 24	11 (22%)
Data Management	29	25	26, 27, 28, 30	10s	7 (14%)
Algebra	31	32, 33, 34	35, 36, 37, 38	39, 40	10 (20%)
Total Number of Questions and Test Emphasis	9 (18%)	9 (18%)	21 (42%)	11 (22%)	50 (100%)

* s—numerical-response question

Student Participation

In June 1992, principals reported a total population of 34 386 students in Grade 9. Table 4-2 presents the number and percentage distribution of students who wrote the Grade 9 Mathematics Achievement Test, who were absent, and who were exempted.

Results for students in French Immersion or Francophone programs are reported separately to participating schools and jurisdictions.

Table 4-2
Grade 9 Mathematics Student Participation
June 1992

Category	Number of Students		Percentage of Students	
Total Number of Students In Regular Programs*		27 888		81.1
Students Who Wrote the Regular Form**	24 523		71.3	
Students Who Wrote the Achievement-Over-Time Forms:	3 365		9.8	
Form T (Blue)—Same as the Regular Form	*1 147*		*3.3*	
Form S (Salmon)	*1 117*		*3.2*	
Form R (Lime)	*1 101*		*3.2*	
Other Students Who Wrote:***		1 481		4.3
Francophone—Taught in French, Wrote in French	137		0.4	
Francophone—Taught in French, Wrote in English	0		0.0	
French Immersion—Taught in French, Wrote in French	1 136		3.9	
French Immersion—Taught in French, Wrote in English	8		0.0	
Students Absent		1 671		4.9
Students Exempted from Writing		3 346		9.7
Categories of Exemption:				
1. Special Needs Students	1 881		5.5	
2. Subject Was Not Taught This Term	171		0.5	
3. English as a Second Language Students	183		0.5	
4. Language of Instruction Was Not English	4		0.0	
5. Other (as approved by the Superintendent)	1 107		3.2	
Total Principals' Reported Population Test Day, June 1992:		34 386		100.00
Grade 9 Enrolment: September 30, 1991		35 430		

*Provincial results are based on test scores achieved by students who were in the "regular" Mathematics program. Such students are defined as those who were instructed in English and who wrote the English form of the achievement test, and those students who were instructed in a language other than English or French and who wrote the English form of the test. They are indicated by the shaded area of the table.

** Regular Form refers to the unmodified 1992 test. The modified tests are described in Section 8 of this report.

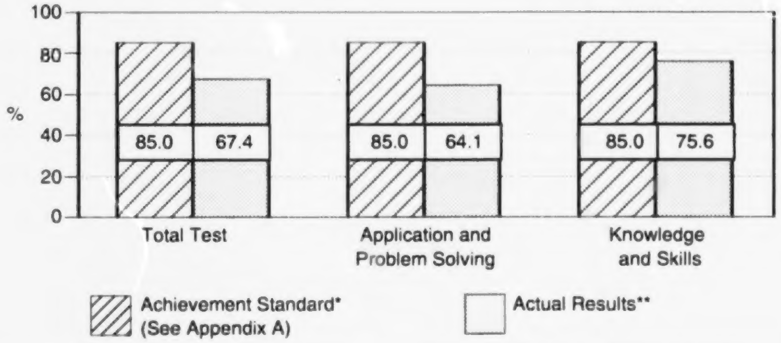
***Results for Francophone or French Immersion students are reported directly to participating schools and jurisdictions and are not calculated in the provincial results.

BEST COPY AVAILABLE

Results in Relation to Standards

Figures 4-1 and 4-2 and Table 4-3 show the percentage of students achieving the *acceptable standard* or higher and the *standard of excellence* or higher on the total test and on components of the test. The levels of performance were lower than expected for both the *standard of excellence* and the *acceptable standard.*

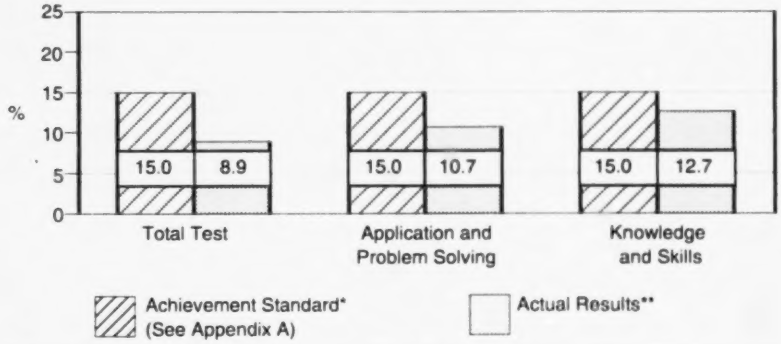
Figure 4-1
Grade 9 Mathematics
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the acceptable standard or higher

** the percentage of students in the province who met the acceptable standard or higher

Figure 4-2
Grade 9 Mathematics
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the standard of excellence or higher

** the percentage of students in the province who met the standard of excellence or higher

Table 4-3
Grade 9 Mathematics
Students Achieving Standards on the Total Test and on Components of the Test
June 1992

Reporting Category	Maximum Possible Score	Provincial Assessment Standard* (Raw Score)	Provincial Achievement Standard** (Per cent)	Students Achieving Assessment Standard or Higher: Expected Number	Actual Number	Actual Per cent
Standard of Excellence or Higher						
Total Test	49***	42	15	4 183	2 469	8.9
Application and Problem Solving Only	31	26	15	4 183	2 971	10.7
Knowledge and Skills Only	18	16	15	4 183	3 545	12.7
Acceptable Standard or Higher						
Total Test	49	23	85	23 705	18 807	67.4
Application and Problem Solving Only	31	14	85	23 705	17 890	64.1
Knowledge and Skills Only	18	9	85	23 705	21 085	75.6
Below Acceptable Standard on Both Components	N/A	N/A	N/A	N/A	5 661	20.3

* **The Provincial Assessment Standard** is a score determined by appropriate standard-setting procedures and is the lowest score a student must achieve for his/her performance to be judged "acceptable" and/or "excellent" in relation to curricular expectations. See Appendix A.

** **The Provincial Achievement Standard** refers to the percentage of students expected to meet or exceed the Provincial Assessment Standard. See Appendix A.

*** Item 12 was removed from the test before scores were calculated.

It should be noted that the actual percentages of students achieving standards on the total test for Grade 9 Mathematics (8.9% and 67.4%) are based on the 27 888 students in the regular programs who wrote the test.

If, however, the percentages are based on the total population (34 386) reported by principals, less the French Immersion and Francophone students who wrote the test (1 481), the percentages achieving standards on the total test would be:

7.5% achieving the *standard of excellence* or higher
57.2% achieving the *acceptable standard* or higher.

If the percentages are based on the September 30, 1991, Grade 9 enrolment (35 430), less the French Immersion and Francophone students who wrote the test (1 481), the percentages achieving standards on the total test would be:

7.3% achieving the *standard of excellence* or higher
55.4% achieving the *acceptable standard* or higher.

It is emphasized that the above percentages, based on the total population and enrolment, present the lowest estimate of achievement. It is highly likely that some of the students who were absent, exempt or not accounted for could have achieved standards. The absence of information on these students is nonetheless problematic.

The number of students achieving the *acceptable standard* and the *standard of excellence* for each jurisdiction was analyzed to determine whether jurisdictions were below, meeting, or exceeding provincial achievement standards. Jurisdictions classified as meeting provincial achievement standards were those for which the difference between the actual number of students and the expected number of students at or above standards was not statistically significant. A 95% confidence interval was used; this criterion means that differences are only reported when there is a 5% or smaller probability that a difference of that size could occur by chance. The results are reported in Table 4-4. ***The percentage distributions in the table are based on 189 jurisdictions (including private schools).***

BEST COPY AVAILABLE

Table 4-4
Grade 9 Mathematics
Percentage Distribution of Jurisdictions Meeting Achievement Standards on the Total Test and on Components of the Test*
June 1992

Component	Percentage Distribution of Jurisdictions Not Meeting Provincial Achievement Standard (Per Cent)	Meeting Provincial Achievement Standard (Per Cent)	Exceeding Provincial Achievement Standard (Per Cent)
Standard of Excellence or Higher			
Total Test	29.6	68.8	1.6
Application and Problem Solving Only	25.9	71.4	2.7
Knowledge and Skills Only	16.9	74.6	8.5
Acceptable Standard or Higher			
Total Test	64.0	34.9	1.1
Application and Problem Solving Only	68.3	31.2	0.5
Knowledge and Skills Only	42.3	57.2	0.5

*Jurisdictions with fewer than five students are excluded, as the statistical significance of the difference between the number actually meeting or exceeding the standard and the number expected to meet or exceed the standard when calculated and reported is not educationally meaningful.

Reporting Categories

Table 4-5 shows the total marks possible and the provincial raw score results for the reporting categories of the Grade 9 Mathematics Achievement Test.

It is important to stress that the averages on the various reporting categories cannot be directly compared with one another. Rather, the results shown in Table 4-5 can best be used in conjunction with parallel tables in the jurisdiction and school reports. Variations in patterns of students' responses to questions can help to indicate strengths and weaknesses in local educational programs.

Statistics presented in this table are based on results achieved by 25 670 (students who wrote the regular form and those who wrote Form T).

Table 4-5
Grade 9 Mathematics
Raw Score Results by Reporting Category
June 1992

Reporting Category	Maximum Possible Score	Raw Score Average	Raw Score Standard Deviation
Total Test	49*	27.7	9.7
Major Component:			
Application and Problem Solving	31	16.5	6.6
Knowledge and Skills	18	11.2	3.6
Curricular Strand:			
Numeration	13	7.2	2.8
Ratio and Proportion	8	4.6	2.0
Measurement and Geometry	11	6.0	2.6
Data Management	7	4.3	1.9
Algebra	10	5.5	2.4
Taxonomy:			
Content Knowledge & Quantitative Literacy	9	5.9	2.1
Procedural Knowledge	9	5.3	2.0
Conceptual Understanding	20	11.4	4.5
Problem Solving	11	5.1	2.6

* Item 12 was removed from the test before scores were calculated.

Results for Individual Multiple-Choice and Numerical-Response Questions

Table 4-6 shows the percentage of students who chose each alternative (A, B, C, and D) for each multiple-choice question. The correct response (key) for each question is also identified. Table 4-7 shows the distribution of responses for each numerical-response question. The results shown in these tables can best be used conjunction with the parallel tables in the jurisdiction and school reports. Variations in patterns of students' responses to questions can help to indicate strengths and weaknesses in local educational programs.

Statistics presented in these tables are based on results achieved by 25 670 students (those who wrote the regular form and those who wrote Form T).

Table 4-6
Grade 9 Mathematics
Results for Individual Multiple-Choice Questions
June 1992

	Item	Distribution of Responses (%)				Component	Taxonomy	Curriculum Standard
		A	B	C	D			
Numeration	1	**60.9***	5.2	13.3	20.5	Knowledge and Skills	Knowledge	converts a decimal expression into a fraction
	2	11.7	**76.1***	6.5	5.6	Knowledge and Skills	Knowledge	converts a decimal expression into scientific notation with a negative exponent
	10	10.6	10.5	12.3	**66.1***	Knowledge and Skills	Quantitative Literacy	determines an approximation of the square root of a number
	3	15.8	30.8	3.3	**50.0***	Application and Problem Solving	Understanding	applies an understanding of the subtraction of integers
	4	11.9	15.4	17.0	**55.5***	Application and Problem Solving	Understanding	express as the meaning of multiplication of proper fractions by a diagram
	5	9.3	**63.6***	18.1	8.6	Application and Problem Solving	Understanding	converts a decimal into a fraction and notes which is the numerator and which is the denominator
	6	27.1	3.9	**56.4***	12.4	Application and Problem Solving	Understanding	applies the laws of exponents to multiplication
	7	**70.1***	5.5	2.6	21.7	Application and Problem Solving	Understanding	relates rationals and points on a number line
	8	**20.8***	75.5	3.1	0.5	Application and Problem Solving	Problem Solving	solves a condition with a constant and a variable
	9	5.3	15.2	34.3	**44.9***	Application and Problem Solving	Problem Solving	uses the divisibility rule and addition to find a numeral
	12	—	—	—	—	—	—	—
Ratio and Proportion	11	**72.4***	4.7	14.6	8.1	Knowledge and Skills	Knowledge	expresses three components of a ratio in its simplest form
	16	0.7	6.9	**84.0***	8.3	Knowledge and Skills	Quantitative Literacy	uses estimation to find an approximate amount of discount
	13	9.1	4.3	11.9	**74.6***	Application and Problem Solving	Understanding	recognizes the appropriate proportion for solving a rate problem
	14	15.9	17.8	**57.8***	8.2	Application and Problem Solving	Understanding	applies actual measurement skills and uses a scale to calculate distances
	15	7.9	**49.3***	39.6	3.0	Application and Problem Solving	Problem Solving	uses a ratio to solve a problem

*correct answer

Continued

Table 4-6 (continued)

	Item	Distribution of Responses (%)				Component	Taxonomy	Curriculum Standard
		A	B	C	D			
Measurement and Geometry	17	20.7	**46.8***	7.1	25.3	Knowledge and Skills	Knowledge	knows the characteristics of a prism
	22	7.7	24.5	**53.4***	14.2	Knowledge and Skills	Quantitative Literacy	uses measuring estimation and quantitative literacy to establish distance
	18	5.4	10.3	**67.5***	16.7	Knowledge and Skills	Procedure	recognizes the construction done by following a given procedure
	19	2.6	20.7	**71.0***	5.6	Knowledge and Skills	Procedure	uses a protractor to measure an angle
	20	13.4	22.8	10.6	**53.1***	Application and Problem Solving	Understanding	relates an understanding that the sum of the angles of a triangle form a straight angle
	21	**67.3***	4.6	16.2	11.8	Application and Problem Solving	Understanding	relates knowledge of a rectangular prism to an appropriate net
	23	17.5	**50.0***	18.8	13.3	Application and Problem Solving	Problem Solving	finds the volume of a prism
	24	22.6	**50.1***	16.8	10.2	Knowledge and Skills	Problem Solving	finds the surface area of a trench and uses the remainder correctly
Data Management	25	18.6	8.6	**56.0***	16.7	Knowledge and Skills	Knowledge	recalls the meaning of range and calculates it
	29	7.0	18.0	**62.3***	12.5	Knowledge and Skills	Procedure	knows the meaning of median and calculates the number of students above it
	26	17.1	11.3	11.9	**59.5***	Application and Problem Solving	Understanding	selects a strategy and calculates the probability given data from a real-life situation
	27	9.4	**63.4***	15.8	11.3	Application and Problem Solving	Understanding	identifies a representative sample of a given population
	28	30.2	6.0	**58.0***	5.7	Application and Problem Solving	Understanding	uses a population sampling technique to estimate total number
	30	11.0	13.1	14.4	**61.2***	Application and Problem Solving	Understanding	uses a random sample to predict the number needed
Algebra	31	18.0	**70.0***	5.6	6.3	Knowledge and Skills	Knowledge	understands the meaning of like terms
	32	2.6	**52.7***	15.8	28.7	Knowledge and Skills	Procedure	uses substitution to evaluate an expression
	33	23.2	13.8	**48.1***	14.8	Knowledge and Skills	Procedure	solves an inequality of the form "x + a" is less than or equal to "b"
	34	**43.7***	29.7	15.8	10.3	Knowledge and Skills	Procedure	solves an equation in terms of another variable
	35	20.9	11.9	14.7	**52.2***	Application and Problem Solving	Understanding	from a table, finds a formula that shows a relationship

*correct answer

Continued

Table 4-6 (continued)

	Item	Distribution of Responses (%)				Component	Taxonomy	Curriculum Standard
		A	B	C	D			
Algebra	36	**47.8***	9.1	30.1	12.8	Application and Problem Solving	Understanding	relates inequalities to an appropriate graphic representation
	37	16.6	15.1	**65.9***	2.3	Application and Problem Solving	Understanding	converts an equality balance into an equation
	38	**41.7***	24.1	17.2	16.7	Application and Problem Solving	Understanding	checks a solution for an equation involving integers
	39	**76.0***	9.2	9.0	5.7	Application and Problem Solving	Problem Solving	applies the meaning of average to solve a practical problem
	40	8.0	14.7	**55.3***	21.8	Application and Problem Solving	Problem Solving	uses an equation or a chart to solve a practical problem

*correct answer

Table 4-7
Grade 9 Mathematics
Results for Individual Numerical-Response Questions
June 1992

Item	Distribution of Responses (%) Correct Response	Incorrect Response	No Response	Strand	Component	Taxonomy	Curriculum Standard
1	62.0	33.8	4.2	Numeration	Knowledge and Skills	Procedure	applies the order of operations for multiplication and division using integers
2	72.3	25.3	2.4	Numeration	Knowledge and Skills	Procedure	applies the rule of exponents to solve for a variable
3	45.0	51.0	4.0	Ratio and Proportion	Knowledge and Skills	Procedure	Calculates simple interest using a fractional per cent rate
4	54.5	42.2	3.3	Ratio and Proportion	Application and Problem Solving	Problem Solving	sets up and uses a proportional ratio to solve a practical problem
5	21.6	75.2	3.1	Numeration	Knowledge and Skills	Problem Solving	uses patterning to solve a problem
6	27.2	70.8	2.0	Ratio and Proportion	Application and Problem Solving	Problem Solving	uses ratio and proportion to solve a practical problem
7	48.5	48.5	3.0	Measurement and Geometry	Application and Problem Solving	Understanding	develops a pattern for finding the sum of the angles of a nonagon
8	46.7	50.5	2.7	Measurement and Geometry	Application and Problem Solving	Understanding	finds the area of a regular decagon in a practical situation
9	47.9	47.3	4.8	Measurement and Geometry	Application and Problem Solving	Understanding	finds the area of a parallelogram or the area of a triangle
10	68.0	29.5	2.5	Data Management	Application and Problem Solving	Problem Solving	uses a random sample to find defective ratios in a population

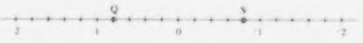
Examiner's Observations

Achievement Test

Generally, the Grade 9 teachers who reviewed and set standards for the test felt that it was a good reflection of the Grade 9 Mathematics program. Test emphases were on understanding concepts and applying them in context, using real-world situations and concrete, pictorial, and symbolic modes of learning. Although the program has been in operation for four years, some teachers felt that they need more time to fully implement the philosophy.

A discussion of specific areas of strength and difficulty for Grade 9 students follows.

Use the information below to answer question 7.



7. The rational numbers located at points Q and S respectively are

70.1 ***A.** 0.8 and $^-0.8$
5.5 **B.** 1.2 and $^-0.8$
2.6 **C.** 1.2 and $^-1.2$
21.7 **D.** 0.4 and $^-0.4$

Use the information below to answer question 15.

The proportion of gold in jewellery and coins is measured in karats (K), with 24K representing pure gold.

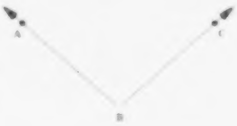
15. The value of pure gold is $16.50/g. If a gold bracelet is marked 18K and its mass is 60 g, what is the value of the gold in the bracelet?

7.9 **A.** $278.20
49.3 ***B.** $742.50
39.6 **C.** $990.00
3.0 **D.** $1237.50

---

19. The measure of ∠*ABC* is

2.6 **A.** 37°
20.7 **B.** 82°
71.0 ***C.** 98°
5.6 **D.** 112°



10s. A factory inspector chooses 10 radios at random from an assembly line. She tests all 10 and finds that 2 of them are defective. On the basis of this sample, about how many defective radios could be expected in a batch of 850?

68.0 Solution 0170

Acceptable Standard—Sample Questions and Commentary

Question 7 required students to recognize the scale on the number line and the rational numbers of the points marked. Students achieving the acceptable standard can do this.

Question 15 required students to find the amount of gold in a bracelet by using a ratio and then calculating the value of the gold. Students achieving the acceptable standard had difficulty solving this multi-step problem. Too many were attracted to alternative C.

Question 19 required students to measure an obtuse angle using the right-hand scale. Students achieving the acceptable standard can do this.

Numerical-response question 10s required students to form a proportion and solve it. Students achieving the *acceptable standard* had little difficulty doing this.

Overall, students achieving the acceptable standard were able to solve knowledge and procedural problems such as

- working with number line (question 7)
- working with scientific notation
- using simple proportion (question 10s)
- estimating
- measuring angles (question 19)
- recognizing like terms and geometric constructions
- solving exponential equations

However, these students had difficulty

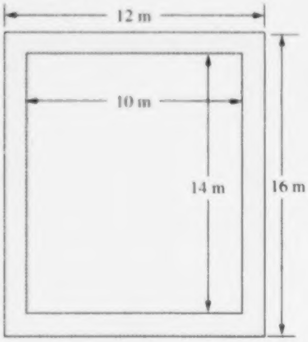
- using patterns to solve problems
- knowing the meaning of terms such as range, probability, median
- manipulating a formula with two variables
- solving inequality conditions
- solving multi-step problems (question 15)

9. The 3-digit number 2*M*3 is added to 326 to give another 3-digit number, 5*N*9. If 5*N*9 is divisible by 9, then *M* is

5.3 **A.** 12
15.2 **B.** 6
34.3 **C.** 4
44.9 ***D.** 2

Use the information below to answer questions 23 and 24.

The shaded region of this diagram represents the top view of a trench that a contractor dug.



24. The contractor was required to cover the bottom of the trench with plastic before further construction could be done. If one roll of plastic contains 10 m², how many rolls did the contractor need?

22.6 **A.** 5
50.1 ***B.** 6
16.8 **C.** 52
10.2 **D.** 140

---

34. Solve for *n* in the statement $5n - 50 = 10c + 250$, where *n* is the number of items bought and *c* is the price per item.

43.7 ***A.** $n = 2c + 60$
29.7 **B.** $n = 5c + 200$
15.8 **C.** $n = 60$
10.3 **D.** $n = 2c + 60$

6s. A cargo plane can hold 6 trucks and 7 jeeps, or 8 trucks and 4 jeeps. If the plane is loaded with jeeps only, then what is the maximum number of jeeps it would likely hold?

27.2 Solution 0016

Standard of Excellence—Sample Questions and Commentary

Question 9 required students to apply place value and the rules of divisibility. Students achieving the *standard of excellence* readily answered this question.

Question 24 required students to find the area of the shaded figure and consider the practical significance of the remainder in division. Students achieving the *standard of excellence* readily answered this question.

Question 34 required students to solve a condition for a variable in terms of another variable and a constant. Most students achieving the *standard of excellence* correctly answered this question; however, some selected alternative B.

Numerical-response question 6s required students to use a ratio to solve a practical problem. Students achieving the *standard of excellence* had difficulty solving this question.

Students who achieved the *standard of excellence* demonstrated more success in solving multi-step problems than other students did. Specifically, students achieving the *standard of excellence* could

- solve practical problems (question 24)
- solve place value problems involving divisibility rules (question 9)
- solve and check conditions (question 34)
- use patterns to solve problems

However, these students had difficulty

- solving problems with two variables
- solving problems involving computation with ratios (question 6s)

Performance-Based Assessment

General Description

In addition to answering the multiple-choice and numerical-response questions on the achievement test, 504 randomly selected students from 22 schools throughout the province participated in performance-based assessment.

Performance-based assessment was developed to assess student's higher order thinking skills in real-life problem-solving situations. The tasks assessed aspects of mathematics that could not be measured adequately by paper-and-pencil tests in which only the answer is recorded and marked.

The six activities that were used are briefly described in Table 4-8. They engaged students in tasks that allowed for a variety of strategies to be used, the use of manipulatives, and the collection of information. Manipulatives were available for direct use in solving the problems and for collecting information. These performance-based assessment tasks provided information about integrated learning across and within subject areas. They involved the active participation of the students in new and different situations.

Students were provided a writing experience in mathematics when asked to explain the strategies they used and how these strategies were carried out to solve the problems. Their responses provide another picture of what students know and are capable of doing in mathematics.

A group of experienced Grade 9 Mathematics teachers met in July 1992 and established scoring standards. All student responses were scored following the standards set, with about 20% of papers being rescored to ensure marker consistency. The results are shown in Table 4-9 and Figure 4-3.

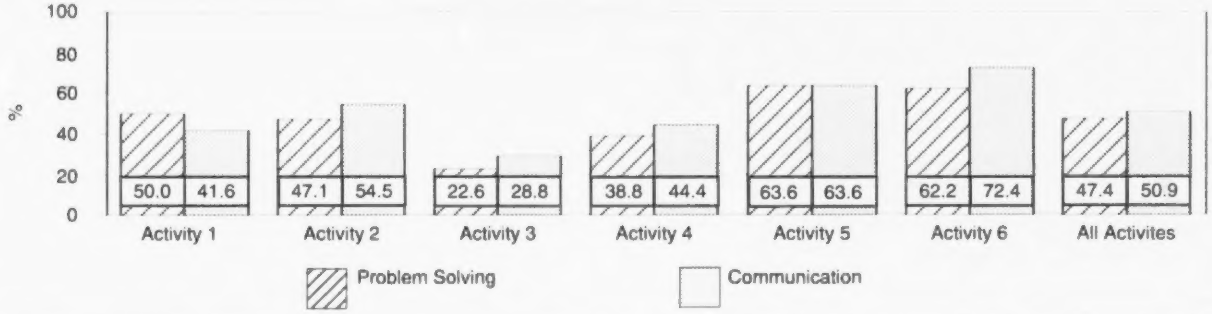
Table 4-8
Grade 9 Mathematics
Performance-Based Assessment Activities

Activity	Name	Content Area	Learning Expectation/Skill Area
1	Seating Place	Numeration Measurement	Analysis of Problems Use of a Model Use of Factors Relation between Perimeter and Area
2	Highway to Mathematics	Measurement Ratio and proportion	Application of Measurement Use of Proportion Use of Map Legend
3	Solar Cylinder	Geometry Measurement Operations	Application Analysis Synthesis—Subproblems Use of Measuring Skills Finding Area Checking Reasonableness of Answer
4	Ski Jumping	Data Collection Data Management Numeration	Data Collection and Recording Display of Data Analysis of Data Interpretation of Data
5	Bucket of Beans	Measurement	Analysis Estimation Checking Reasonableness of Answer
6	Packaging	Numeration	Analysis Monitoring Use of Factors Finding Greatest Common Factor

Table 4-9 N=503
Grade 9 Mathematics
Performance-Based Assessment Results

	Student Achievement	Activity 1 (%)	Activity 2 (%)	Activity 3 (%)	Activity 4 (%)	Activity 5 (%)	Activity 6 (%)	All Activities (%)
Problem Solving	Beyond Grade 9	8.3	15.1	9.1	2.4	15.9	50.1	16.8
	At Grade 9	41.7	32.0	13.5	36.4	47.7	12.1	30.6
	Not Yet at Grade 9	34.4	44.1	30.4	48.3	27.8	18.5	33.9
	Totally Misunderstood or Left Blank	15.5	8.7	46.9	12.9	8.5	19.3	18.6
Communication	Beyond Grade 9	6.0	17.7	11.5	4.0	23.2	32.6	15.8
	At Grade 9	35.6	38.6	17.3	40.4	40.4	39.8	35.1
	Not Yet at Grade 9	41.0	38.8	35.8	44.9	30.0	21.1	35.3
	Unclear and Inappropriate	17.5	6.8	35.4	10.7	6.4	6.6	13.9

Figure 4-3
Grade 9 Mathematics
Percentage of Students Achieving At or Beyond Grade 9 Expectation



Examiner's Observations

Student responses to each activity were assessed using two types of scoring methods. Descriptive-analytic scoring identified the strategies that students used to complete the tasks and the accuracy of their responses. A holistic scoring guide was used for rating students' problem-solving and communication skills.

The descriptive-analytic assessment showed that

- about half of the students were not able to solve open-ended problems successfully
- successful students used a wide range of strategies in problem solving
- students in general preferred to solve problems using the concrete mode rather than the symbolic mode
- students were more successful in solving problems when manipulatives could be used directly to solve the problem

Results of the holistic scoring on each of the tasks showed that

- students who were able to apply the problem-solving model were more successful in solving problems

- students who were able to apply the problem-solving model could also clearly communicate the process and results in writing

- there is no gender difference in students' ability to solve problems; however, girls were better than boys in communicating

A more detailed description of the assessment tasks and scoring criteria, and samples of students' performances are provided in the booklet *Samples of Students' Responses from the June 1992 Grade 9 Mathematics Performance-Based Assessment Tasks.*

Relationship between Performance-Based Assessment and the Achievement Test

Results show a positive correlation between achievement test scores and scores on the performance-based assessment. The highest correlation occurs between the problem-solving component of the achievement test and performance-based assessment.

Both performance-based assessment and achievement test results indicate that Grade 9 students have weak problem-solving skills in mathematics.

Contexts for Learning Study

General Description

In June 1992, 57 Grade 9 Mathematics teachers and 450 students from across the province participated in a pilot study designed to identify and examine relationships among various contexts for learning and their effect on student achievement. Students responded to questions related to the attitudes outlined in the *Program of Studies* for Mathematics. Teachers reported on the types and frequency of use of instructional strategies, activities, classroom resources, and manipulatives. Results of this study are reported in Table 4-10 and Table 4-11.

Table 4-10
Grade 9 Mathematics
Contexts for Learning: Percentage Distribution of Student Responses

	Statement	No response	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1.	There are usually different ways to solve math problems.	0	0.4	0.2	2.2	53.1	44.0
2.	Knowing how to solve a math problem is as important as getting the right answer.	2.0	1.3	8.9	5.6	37.7	46.2
3.	Mathematics is useful for solving every-day problems.	0	0.7	4.7	13.1	48.2	33.1
4.	Mathematics helps me with:						
	a. taking care of my money.	5.0	0.9	2.2	4.9	47.4	44.3
	b. preparing for high school.	15.0	0.5	3.4	12.9	47.1	36.1
	c. balancing my time commitment for different activities.	19.0	3.0	16.0	29.7	35.7	15.5
	d. getting a job.	12.0	1.4	7.3	13.9	39.5	37.7
5.	I am good at mathematics.	7.0	5.0	14.7	23.5	46.5	10.4
6.	When I leave school, I will not need most of the math I have learned.	6.0	27.5	33.1	19.1	15.3	5.0
7.	Being good at mathematics is important in getting a good job.	5.0	0.4	3.6	14.4	45.4	36.2
8.	I like math puzzles.	5.0	9.9	18.7	27.2	32.4	11.9
9.	I like to be challenged in math.	5.0	7.6	19.3	23.8	34.8	14.4

Continued

Table 4-10 (continued)

Statement	No response	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
10. I feel successful in math.	5.0	7.0	16.0	27.9	38.0	11.2
11. The more I learn in math, the more interesting it becomes.	4.0	5.6	12.1	26.5	36.8	19.1

Statement	No response	Never	Rarely	Sometimes	Often	Always
12. I make sure I try every problem, even if I cannot solve them all.	8.0	1.1	5.9	27.6	39.8	25.6
13. When I do not understand a problem in mathematics, I:						
a. try different ways to solve it on my own.	19.0	2.1	11.1	32.3	38.3	16.2
b. ask another student for help.	18.0	0.7	10.9	38.0	40.3	10.2
c. wait and ask someone at home.	24.0	16.0	39.0	28.9	14.6	1.6
d. give up.	22.0	25.9	41.8	25.0	6.3	0.9
14. If I had a complicated math puzzle or problem that I couldn't solve in 10 minutes, the next thing I would likely do is:						
a. continue trying until I solved it.	22.0	4.7	23.8	37.1	26.2	8.2
b. set a time limit for trying.	23.0	19.0	27.9	32.1	18.5	2.6
c. give up.	34.0	21.6	40.4	28.1	8.2	1.7
d. get help to solve the puzzle.	26.0	0.7	6.4	33.0	48.1	11.8
e. get a clue to help and continue trying.	28.0	1.4	11.1	29.4	47.4	10.7
15. If, after solving a particularly challenging math puzzle, I compared my solution with a classmate and found that I had a different answer, I would:						
a. assume my own solution is incorrect.	20.0	7.7	28.6	47.7	12.3	3.7
b. share my solution with others to see if they also have solutions that work.	22.0	2.8	6.5	32.9	46.7	11.0
c. assume that other classmates may also have different solutions, but that mine is still good.	26.0	5.0	14.4	43.6	30.7	6.4
d. see if I can solve the puzzle another way so that I would have two solutions.	19.0	11.1	19.0	35.0	28.1	6.7

Table 4-11
Grade 9 Mathematics
Contexts for Learning: Percentage Distribution of Teacher Responses

	Statement	No response	Never	Rarely	Sometimes	Often	Always
1.	I encouraged students to try different strategies in solving problems this year.	2.0	—	—	11.3	60.4	28.3
2.	This year I demonstrated when I was solving a problem that I didn't always know how to solve it immediately.	3.0	1.9	9.6	40.4	36.5	11.5
3.	This year I encouraged students to share responses and consider the merits of each.	1.0	—	3.7	27.8	51.9	16.7
4.	This year I encouraged students to bring in problems from home or make up their own.	1.0	13.0	40.7	35.2	9.3	1.9
5.	I was enthusiastic about problem solving this year.	1.0	—	1.9	16.7	51.9	29.6
6.	This year I emphasized willingness and perseverance rather than speed.	1.0	—	3.7	20.4	55.6	20.4
7.	I encouraged a variety of solutions this year.	1.0	—	—	22.2	46.3	31.5
8.	I provided students with problems at the appropriate difficulty level.	1.0	—	—	13.0	68.5	18.5
9.	This year I personalized problems whenever possible.	1.0	—	7.4	33.3	50.0	9.3
10.	Most of my students liked to be challenged in math this year.	3.0	—	21.2	51.9	25.0	1.9
11.	This year when my students did questions involving new material, most of them:						
	a. set their own time limit for working on the questions.	2.0	5.7	28.3	34.0	32.1	—
	b. waited until they had my assistance to begin.	1.0	5.6	24.1	48.1	22.2	—
	c. discussed the new material with a classmate.	2.0	—	3.8	26.4	58.5	11.3
	d. waited until the questions were answered by someone else.	2.0	—	40.4	46.2	13.5	—
12.	This year when my students were presented with a "novel problem," most of them appeared:						
	a. motivated.	3.0	—	7.7	51.9	40.4	—
	b. frustrated.	3.0	3.8	11.5	65.4	19.2	—
	c. bored.	6.0	4.1	38.8	46.9	10.2	—
13.	I used the following with my students this year:						
	a. Base ten blocks	5.0	78.0	18.0	4.0	—	—
	b. Place value chart and markers	3.0	44.2	15.4	36.5	1.9	1.9
	c. Number line	1.0	—	1.9	37.0	50.0	11.1
	d. Fraction bars or fraction kits	3.0	50.0	17.3	17.3	15.4	—

Continued

Table 4-11 (continued)

Statement	No response	Never	Rarely	Sometimes	Often	Always
e. Calculators	3.0	—	1.9	5.8	42.3	50.0
f. Computers	4.0	54.9	25.5	15.7	3.9	—
g. Decimal Squares	7.0	79.2	10.4	10.4	—	—
h. Shapes (cylinders, cones, cubes, etc.)	2.0	1.9	1.9	35.8	41.5	18.9
i. Geometry Set	1.0	1.9	1.9	31.5	46.3	18.5
j. Mira	4.0	80.4	9.8	5.9	2.0	2.0
k. Geoboards	3.0	76.9	15.4	7.7	—	—
l. Balance Scales	2.0	58.5	15.1	18.9	5.7	1.9
m. Algebra Tiles	3.0	69.2	15.4	9.6	1.9	3.8
14. How often did working with manipulative materials help your students understand math this year?	1.0	1.9	9.3	61.1	25.9	1.9
15. This year when my students needed or wanted manipulatives to help them, they:						
a. helped themselves to what they needed.	2.0	20.8	24.5	35.8	13.2	5.7
b. asked me for permission to get what they needed.	5.0	16.0	26.0	40.0	14.0	4.0
16. When I taught the problem-solving component of my math program this year:						
a. I taught problem-solving strategies as a separate unit and integrated problem solving into the math program throughout the year.	2.0	15.1	15.1	18.9	34.0	17.0
b. I taught problem solving as a separate unit.	7.0	54.2	16.7	10.4	12.5	6.3
c. I integrated problem-solving into the math program throughout the year and taught problem-solving strategies as they were needed.	8.0	—	2.1	4.3	57.4	36.2
17. When dealing with solutions to problems in mathematics this year:						
a. students reported their results to the whole class.	2.0	1.9	13.2	64.2	17.0	3.8
b. students discussed their solutions with each other.	4.0	—	2.0	49.0	39.2	9.8
c. students wrote up their solutions and handed them in.	3.0	3.8	9.6	61.5	19.2	5.8

Statement	No Response	Never	Less than once a week	Once a week	Several times a week	Every day
18. This year my students did the following in math class:						
a. Used a computer	1.0	70.4	27.8	—	1.9	—
b. Used a calculator	1.0	—	1.9	—	42.6	55.6
c. Used manipulative materials	3.0	5.8	51.9	30.8	11.5	—
d. Wrote in a journal	1.0	81.5	9.3	1.9	3.7	3.7
e. Did exercises individually	2.0	1.9	3.8	5.7	67.9	20.8
f. Listened to a lesson presented to the whole class	3.0	1.9	7.7	3.8	65.4	21.2

Continued

Table 4-11 (continued)

Statement	No Response	Never	Less than once a week	Once a week	Several times a week	Every day
g. Worked in small groups	1.0	5.6	16.7	27.8	44.4	5.6
h. Wrote a math test or quiz	1.0	1.9	40.7	46.3	7.4	3.7
i. Solved problems in small groups	1.0	3.7	37.0	24.1	29.6	5.6
j. Independently worked on problem solving	1.0	3.7	20.4	35.2	37.0	3.7
k. Corrected homework or practice questions with the whole class	1.0	—	13.0	3.7	54.4	25.9
19 This year I used math manipulatives to assist my demonstration/instruction	4.0	—	56.9	23.5	19.6	—
20. I conferenced with individual students	2.0	1.9	18.9	11.3	35.8	32.1

Examiner's Observations

Student Attitude Questionnaire—Contexts for Learning

The student questionnaires reveal that students generally feel that:

- knowing how to solve a math problem is as important as getting the right answer
- mathematics is useful in everyday life and necessary for getting a good job
- they can persist but confidence is rather low

Relationship between Student Attitudes and the Achievement Test

Students achieving the *standard of excellence* or higher on the achievement test were more likely to report positive attitudes about mathematics. They reported that mathematics was interesting to study and that they enjoyed puzzles and challenges in mathematics. This group of students were more likely to be persistent and confident when trying to solve difficult or lengthy problems. They also showed a stronger tendency to be open to multiple and different solutions to problems.

Of the students achieving in the *acceptable standard* but not the *standard of excellence*, 66% feel that they are good in mathematics but only 55.1% indicated that they were successful in mathematics. Although this group of students indicated positive attitudes about mathematics, they were less likely than the group achieving the *standard of excellence* or higher to enjoy puzzles and challenges in mathematics. A larger proportion of this group of students reported a reliance on group work to assist them in solving problems and validating solutions than those achieving below or above them.

Students achieving below the *acceptable standard* or higher indicated they believed that mathematics was important, but only 22.2% felt they were good at mathematics and only 18.1% expressed a belief that they are successful in mathematics. This group of students was less likely to find mathematics interesting and felt negatively toward puzzles and challenges in mathematics. While fewer students in this group indicated they would persist in trying to solve a difficult problem on their own, over half reported they would get help from another student.

Teacher Questionnaire—Contexts for Learning

The teacher questionnaires reveal that teachers generally

- encourage a variety of problem-solving strategies
- integrate problem solving through the strands
- are enthusiastic in their approach toward problem solving
- do not use manipulatives to a great extent

Relationship between Contexts for Learning and the Achievement Test

In this discussion, classrooms where most students met or exceeded the *acceptable standard* are referred to as high achieving classrooms, and those classrooms where few students met or exceeded the *acceptable standard* are referred to as low achieving classrooms. Of the high achieving classrooms, 58% use manipulative materials in math class one or more times a week, whereas 24% of low achieving classrooms use manipulative materials with the same frequency. Students in 74% of high achieving classrooms help themselves to whatever manipulatives they need or want to help them understand math, whereas 19% of low achieving classrooms are offered the same opportunity. Teachers indicate that in 53% of high achieving classrooms and 33% of low achieving classrooms, computers are used often. Calculators are used every day in 63% of high achieving classrooms and 53% of low achieving classrooms.

Of the classrooms surveyed, 93% have problem solving integrated into the mathematics program throughout the year, with problem-solving strategies taught as needed. Differences between high achieving and low achieving classes can be seen in the way students respond to new material and in how achievement in mathematics is assessed. When students do questions involving new material, students in 35% of low achieving classrooms indicated that they often wait until they have the teacher's assistance to begin, whereas only 10% of students in high achieving classrooms wait for the teacher's assistance. In 77% of high achieving classrooms and 52% of low achieving classrooms, students discussed new material with a classmate before doing the questions. When problem solving, students in 22% of high achieving classrooms frequently report their results to the whole class, whereas students in 6% of low achieving classsrooms dealt with results in a similar manner. Students in 68% of high achieving classrooms write a math test or quiz one or more times a week, whereas 47% of low achieving classrooms write a test or quiz with the same frequency.

The contexts for learning show that differences do exist in how educational programs are implemented.

Issues

Both performance-based assessment and achievement test results indicate that Grade 9 students have weak problem-solving skills in mathematics. Performance-based assessment shows that students in general prefer to solve problems using the concrete mode rather than the symbolic mode and are more successful in solving problems when manipulative materials can be used directly to solve the problem. High achieving classrooms used a greater variety of manipulative materials more frequently than low achieving classrooms.

These findings, along with the focus placed on use of manipulatives in developing problem-solving skills by the new *Program of Studies* in 1988, suggest a direction for improving instruction in mathematics.

Section 5

Achievement by Gender

Information on the gender of students who wrote the provincial achievement tests has been collected and data have been analyzed and reported since 1989.

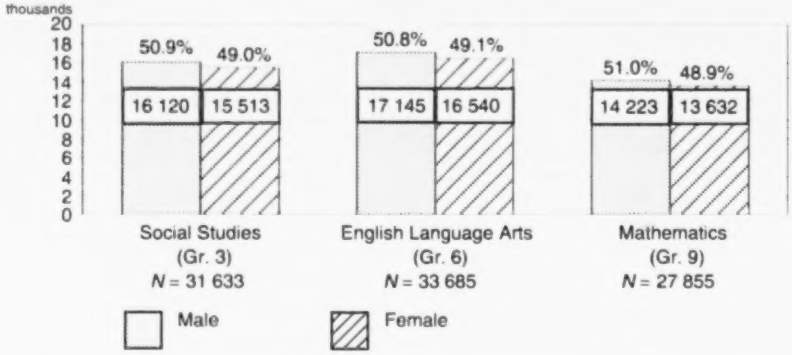
This section of the report answers the following questions:

- What is the proportion of males and females who wrote the 1992 achievement tests?
- Is the percentage of males and females meeting standards the same in each subject?
- Are the 1992 results for individual subjects similar to or different from those of 1989 through 1991?

Observations and Discussion

What is the proportion of males and females who wrote the 1992 achievement tests?
Results for 1992, presented in Figure 5-1, reveal that more males than females wrote the achievement tests at each grade level. This pattern is similar to the data from 1989 through 1991, with the exception of 1990 when more females than males wrote the Grade 9 English Language Arts test.

Figure 5-1
Number of Achievement Tests Written by Gender*
June 1992



* Figures do not include tests where students did not identify their gender. The number of students who did not provide gender data is as follows:
Grade 3 Social Studies—21 students
Grade 6 English Language Arts—32 students
Grade 9 Mathematics—33 students

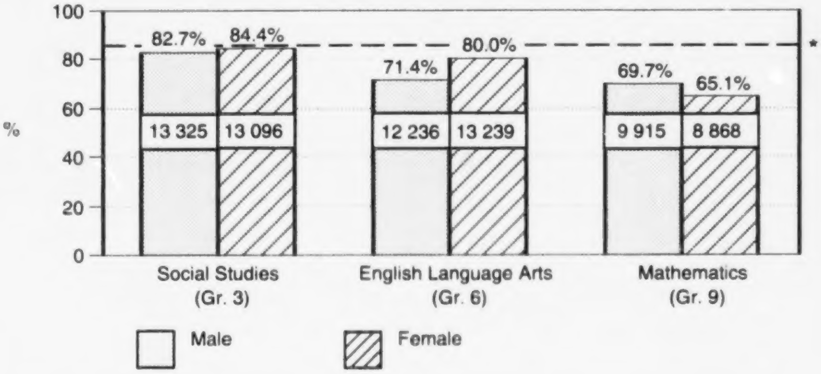
Is the percentage of males and females meeting standards the same in each subject?
Results for 1992 presented in Figures 5-2 and 5-3 reveal that females outperformed males in Grade 3 Social Studies and Grade 6 English Language Arts. Results for 1992 Grade 9 Mathematics show that males outperformed the females.

Are the 1992 results for individual subjects similar to or different from those of 1989 through 1991?
The pattern for the 1992 Grade 3 Social Studies results is similar to the 1989 Grade 6 Social Studies result: females outperformed males, particularly at the standard of excellence. In 1991, however, males marginally outperformed females in Grade 9 Social Studies.

The pattern of females outperforming males for the Grade 6 English Language Arts is similar to both the 1989 Grade 3 and the 1990 Grade 9 English Language Arts results.

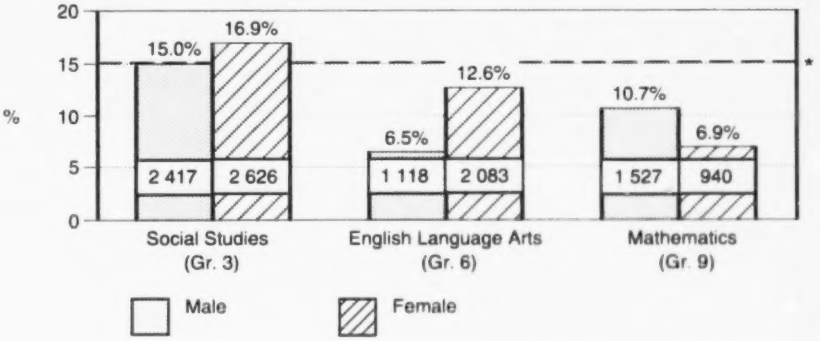
The 1990 Grade 3 Mathematics results and the 1991 Grade 6 Mathematics results show a similar pattern to the 1992 Grade 9 results of males outperforming females. However, the difference in achievement between males and females is greater at the Grade 9 level.

Figure 5-2
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test by Gender
June 1992



* 85% of students were expected to achieve the acceptable standard or higher on the total test.

Figure 5-3
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test by Gender
June 1992



*15% of students were expected to achieve the standard of excellence or higher on the total test.

Section 6

Achievement by Age

Information on the age of students who wrote the provincial achievement tests was first collected in June 1990. The 1990 and 1991 data were analyzed and reported in the *1990 Achievement Testing Program Provincial Report* and again in the *1991 Achievement Testing Program Provincial Report*. This section of the report answers the following questions:

- What is the age distribution of students who wrote the 1992 achievement tests?
- What relationship, if any, does age appear to have with achievement as measured by the 1992 provincial achievement tests?

Age Groups

This year, for the first time, information concerning both the year and the month of birth at the time of testing was collected.

Table 6-1
Number of Achievement Tests Written by Age
June 1992

Age (6 month intervals)	**Grade 3 Social Studies**		**Grade 6 Language Arts**		**Grade 9 Mathematics**	
	Number	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Under 7	51	0.2				
7 (84-89 mos.)	18	0.1				
7.5 (90-95 mos.)	272	0.9	1	0.0		
8 (96-101 mos.)	1348	4.3				
8.5 (102-107 mos.)	**11456**	**36.2**				
9 (108-113 mos.)	**12519**	**39.5**				
9.5 (114-119 mos.)	**3575**	**11.3**	4	0.0		
10 (120-125 mos.)	1678	5.3	9	0.0	1	0.0
10.5 (126-131 mos.)	198	0.6	106	0.3		
11 (132-137 mos.)	110	0.3	1632	4.8	1	0.0
11.5 (138-143 mos.)	27	0.1	**12286**	**36.4**		
12 (144-149 mos.)	18	0.1	**13289**	**39.4**		
12.5 (150-155 mos.)	4	0.0	**3949**	**11.7**	3	0.0
13 (156-161 mos.)	8	0.0	1830	5.4	7	0.0
13.5 (162-167 mos.)	3	0.0	283	0.8	50	0.2
14 (168-173 mos.)	7	0.0	102	0.3	1352	4.8
14.5 (174-179 mos.)			28	0.1	**10389**	**37.3**
15 (180-185 mos.)			11	0.0	**10807**	**38.8**
15.5(186-191 mos.)			1	0.0	**3167**	**11.4**
16 (192-197 mos.)			1	0.0	1538	5.5
16.5(198-203 mos.)			1	0.0	305	1.1
17 or older					121	0.4
unknown	362	1.1	184	0.5	147	0.5
Total	31654	100.0	33717	100.0	27888	100.0

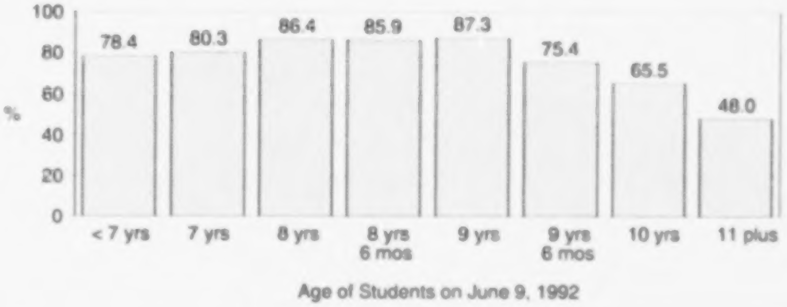
Age on the test day (June 9, 1992)
An empty area indicates that there were no students
The percentages for Grade 6 do not add up to 100.0 because of rounding.

BEST COPY AVAILABLE

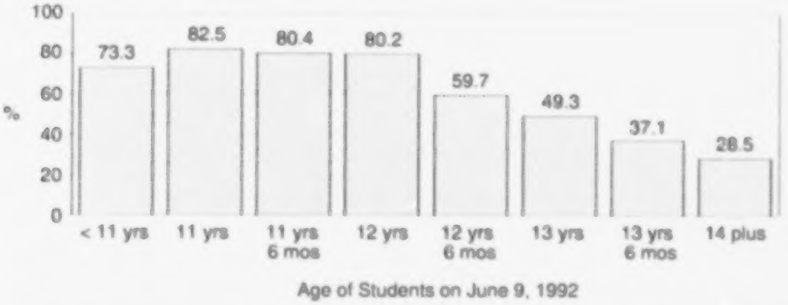
We were therefore able to determine the age of students with greater precision than in previous studies. Each student was categorized as being in the first or the last half of his or her age year (e.g., 7 years = 84 to 89 months 7.5 years = 90 to 95 months). Table 6-1 shows the exact age range in months of each group. Figure 6-1 and Figure 6-2 show the proportion of students in each age group who met standards.

Figure 6-1
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test by Age
June 1992

Grade 3 Social Studies



Grade 6 English Language Arts



Grade 9 Mathematics

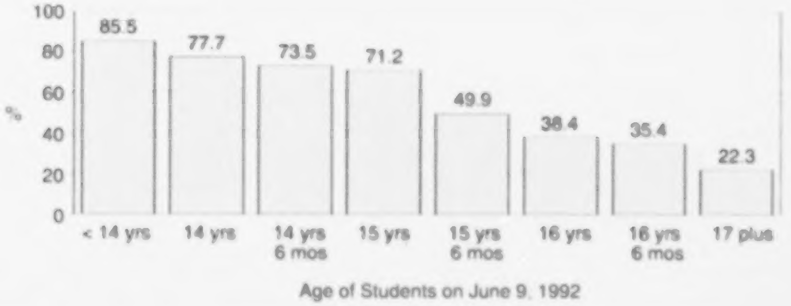
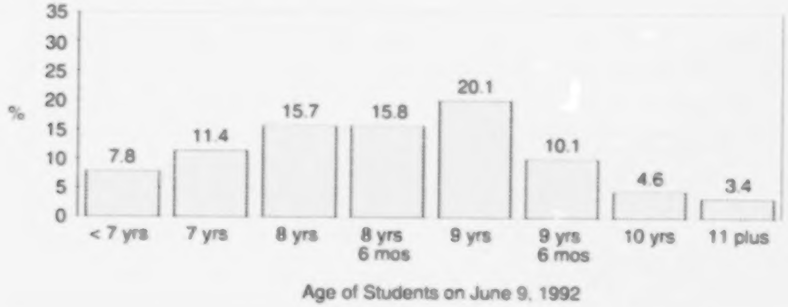
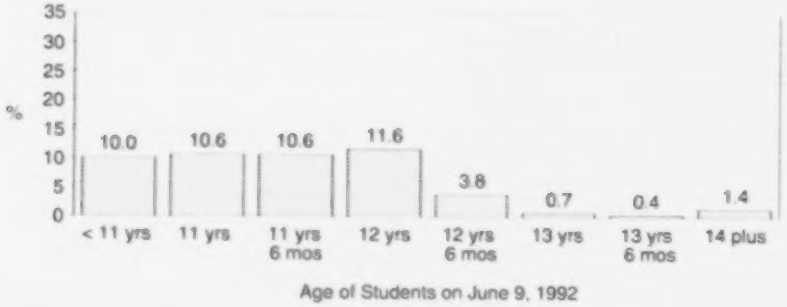


Figure 6-2
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test by Age
June 1992

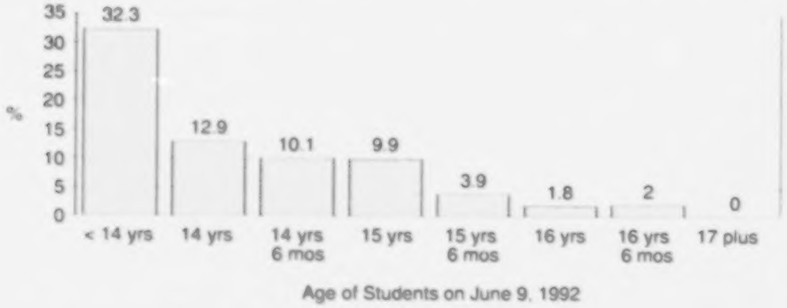
Grade 3 Social Studies



Grade 6 English Language Arts



Grade 9 Mathematics



Observations and Discussion

Grade 3 Age Groups

For the year 1992, 40.5% of tested Grade 3 students were 8 years old at the time of testing and 50.8% were 9 years old. Of the tested students, 1.2 % were younger than 8 years old on June 9 and 6.4% were older than 9. It is interesting to note that there were 40 students aged 12, 13, and 14 in Grade 3. It may be that a broader group of special needs students wrote the Grade 3 test.

Only 51 age 6 students are reported to have written the Grade 3 test and 290 age 7 students wrote. Proportionately fewer of the students aged 7 and younger were able to meet the standards. This is also true of students aged 9.5 and older.

Grade 6 Age Groups

For the year 1992, 41.2% of tested Grade 6 students were 11 years old at the time of testing and 51.1% were 12 years old. Of the tested students, 0.3 % were younger than 11 years old on June 9 and 6.6% were older than 12. While there were some students aged 9, 15, and 16, the number was very small. There seemed to be a slightly narrower distribution of students in Grade 6 than in Grade 3.

Of the 6,206 students aged 12.5 and older, proportionately fewer were able to meet the acceptable standard and the standard of excellence. The difference is quite large. A larger proportion of the older students are not doing as well as might be expected.

Grade 9 Age Groups

For the year 1992, 42.1% of tested Grade 9 students were 14 years old at the time of testing and 50.1% were 15 years old. Of the tested students, 0.2 % were younger than 14 years old on June 9 and 7.0% were older than 15. There were 121 students who wrote the Grade 9 test who were 17 years of age or older.

For Grade 9, there appears to be a negative relationship between age and student achievement. Younger students generally achieve higher that do older students, with regard to both the acceptable standard and the standard of excellence.

Summary

In 1990 and 1991, a pattern of younger students outperforming older students was noticed in each of the three grades tested. In 1992, the collection of both month and year of birth to determine age permitted grouping of students within narrower age ranges. The data from these groupings seem to indicate that this pattern does not hold true for very young students in grades 3 and 6. In these grades, students in general who are younger than the mainstream of students did not necessarily perform better.

In general, it would appear that students who are older than the mainstream did not achieve as well as expected. This lower achievement of older students in the grade levels tested may be attributed to the interaction of several factors. The most likely factors are repeating students, late entrants into formal schooling, and transferees from other provinces or countries where there may be curricular or language differences.

Schools and jurisdictions whose results reflect negative relationships between age and achievement are encouraged to identify the specific factors operating within their own classrooms and schools. Accurate identification of such factors would be the first step in the development of plans to help older students achieve to their full potential.

Student Evaluation Branch welcomes observations from school administrators on the factors they identify as being major contributors to the prevailing negative relationships between age and achievement.

Section 7

Achievement by Grade Level

This section is an exploratory approach to reporting results from the 1992 achievement tests. It attempts to provide answers to the following question:

What percentage of grades 3, 6, and 9 Alberta students
- may be achieving beyond grade level
- are achieving at grade level
- may be achieving at grade level
- are not yet achieving at grade level

as measured by the June 1992 achievement tests?

To facilitate implementation of a results-based curriculum, this section analyzes and reports student achievement by grade "levels".

Within each curriculum, specific outcomes, expressed as the knowledge and skills to be acquired and developed, are arranged into sequences reflecting the developmental nature of learning and expectations for a learner's increasing competence or confidence in the subject area.

The 1992 achievement tests were designed to measure student achievement within the given grade level. However, a number of questions on the achievement tests could be considered to measure more advanced levels of performance. For reporting purposes only, we have classified students within the grade levels framework based on the following four definitions:

1. **May Be Achieving Beyond Grade Level**
   Students who may be achieving beyond grade level are those students who achieved the *standard of excellence* for both major components of the test.

2. **Achieving At Grade Level**
   Students who are achieving at grade level are those students who achieved the *acceptable standard* on the total test and those students who achieved the *standard of excellence* on the total test but not on both components.

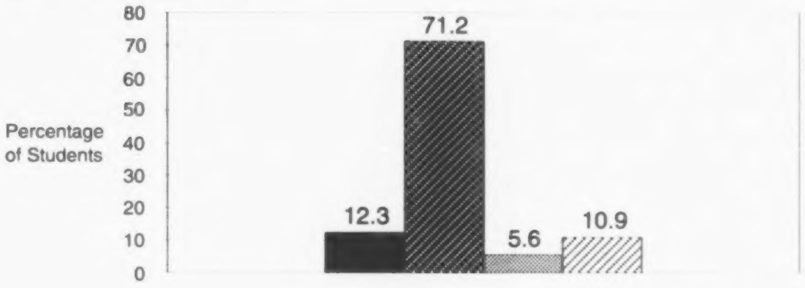
3. **May Be Achieving At Grade Level**
   Students who may be achieving at grade level are those students who met the *acceptable standard* on one of the major components of the test but not on the total test.

4. **Not Yet Achieving At Grade Level**
   Students who are not yet achieving at grade level are those students who did not meet the *acceptable standard* on either major component of the test.

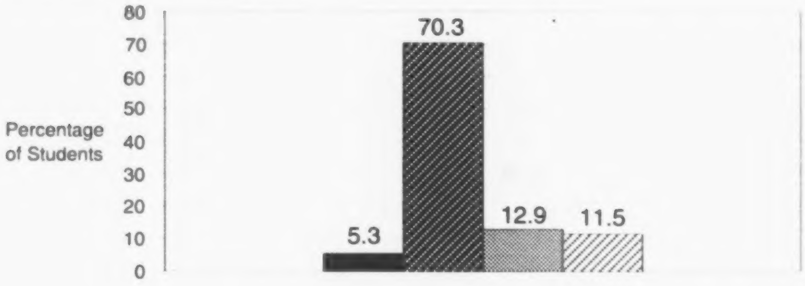
Results from the 1992 achievement tests showing distributions of grade level achievement are presented in Figure 7-1 and Tables 7-1 to 7-3. This experimental analysis shows the wide range of student achievement within a nominal grade level.

Figure 7-1
Distribution of Grade Level Achievement
June 1992

Grade 3 Social Studies



Grade 6 English Language Arts



Grade 9 Mathematics

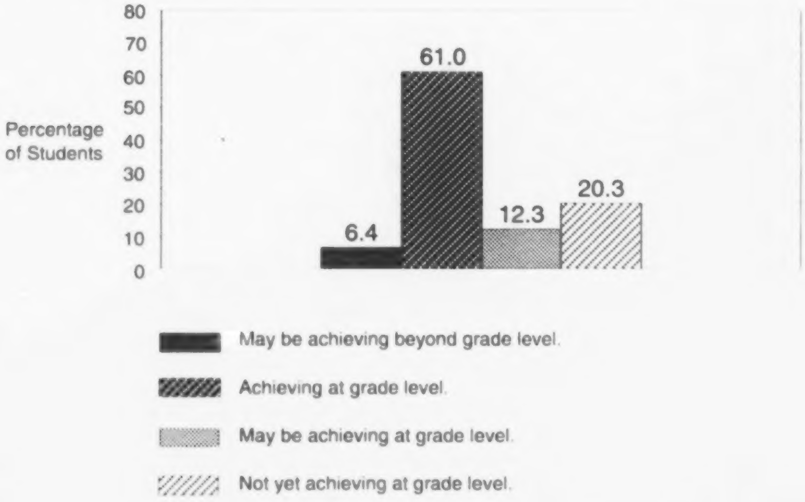


Table 7-1
Grade 3 Social Studies
Distribution by Grade Level Achievement
June 1992

Grade Level 3	Number	Per Cent
Students Who May Be Achieving Beyond Grade Level	3 898	12.3
Students Who Are Achieving At Grade Level	22 533	71.2
Students Who May Be Achieving At Grade Level	1 768	5.6
Students Who Are Not Yet Achieving At Grade Level	3 455	10.9
Total	31 654	100.0

Table 7-2
Grade 6 English Language Arts
Distribution by Grade Level Achievement
June 1992

Grade Level 6	Number	Per Cent
Students Who May Be Achieving Beyond Grade Level	1 798	5.3
Students Who Are Achieving At Grade Level	23 698	70.3
Students Who May Be Achieving At Grade Level	4 335	12.9
Students Who Are Not Yet Achieving At Grade Level	3 886	11.5
Total	33 717	100.0

Table 7-3
Grade 9 Mathematics
Distribution by Grade Level Achievement
June 1992

Grade Level 9	Number	Per Cent
Students Who May Be Achieving Beyond Grade Level	1 782	6.4
Students Who Are Achieving At Grade Level	17 025	61.0
Students Who May Be Achieving At Grade Level	3 420	12.3
Students Who Are Not Yet Achieving At Grade Level	5 661	20.3
Total	27 888	100.0

Section 8

Achievement Over Time

An important task of Alberta Education is to measure and report changes in student achievement over time. Since 1983, the Student Evaluation Branch has been measuring the achievement of students in grades 3, 6, and 9 in the subject areas of language arts, mathematics, science, and social studies. The administration of the Achievement Testing Program follows a four-year cycle for each subject within each grade level. In 1984, 1988, and 1992, Social Studies was tested in Grade 3, Language Arts was tested in Grade 6, and Mathematics was tested in Grade 9.

This section of the report answers the following question:

- Has achievement, as measured by individual provincial achievement tests in Grade 3 Social Studies, Grade 6 Language Arts, and Grade 9 Mathematics, changed since 1984 and 1988?

Three studies were carried out. The first was designed to compare achievement since 1984 on the multiple-choice questions in Grade 3 Social Studies, Grade 6 Language Arts, and Grade 9 Social Studies.

The second study was designed to detect practice effects that are the result of students in the achievement-over-time groups using multiple-choice questions from the 1988 and/or 1984 tests as practice questions. The presence of practice effects may alter conclusions about achievement-over-time results for the multiple-choice sections.

The third study was designed to compare achievement since 1984 and 1988 on the written-response part of the Grade 6 Language Arts test. The results of these special studies follow.

Multiple-Choice Study **Design**

Before 1991, achievement-over-time studies carried out by the Student Evaluation Branch involved the re-administration of earlier tests to a sample of students who were also writing the current tests. Because the same students had to write two tests, the re-administration was either one week before or one week after the current test administration. Subsequently, motivational levels and state of preparation were likely different from when the tests were written during the original administrations and the results therefore less valid. The additional testing time required of students participating in the study was a concern.

To address these issues a new design, first implemented in 1991, was used. For each subject, a random group of students was chosen as the achievement-over-time (*AOT*) group. The *AOT* group was randomly divided into three sub-groups. One sub-group wrote the current 1992 test so that we could verify that the *AOT* group was representative of the province. Each of the other two sub-groups was assigned to write either the 1988 *AOT* test or the 1984 *AOT* test.

The *AOT* tests were developed to match the blueprints of the 1992 test. Furthermore, these tests were administered at the same time and under the same conditions as the regular achievement tests in the rest of the province, as a means of maintaining the validity of the testing for the *AOT* students.

Each *AOT* test consisted of roughly equal portions of questions from the year being compared (1988 or 1984) and questions from the current 1992 test. The 1992 portions of the various tests allow us an additional verification that the random sub-groups in the study are representative of the province. In addition, the current 1992 portion allows the calculation of a 1992 test score for each of the students in the *AOT* sample. The 1988 portion of the *AOT* test is used to compare 1992 student performance with student performance in 1988. The 1984 portion allows comparison with the 1984 student population.

Table 8-1 shows the composition of the achievement-over-time (*AOT*) tests in terms of the number of questions they contained from the 1984, 1988, and 1992 tests.

Table 8-1
Comparison of the Achievement-Over-Time Tests by the Number of Questions from the Previous and Current Tests

	1992 *AOT* Test	1988 *AOT* Test	1984 *AOT* Test
Grade 3 Social Studies			
Number of 1984 Questions	0	0	25
Number of 1988 Questions	0	26	0
Number of 1992 Questions	50	24	25
Grade 6 Language Arts			
Number of 1984 Questions	0	0	20
Number of 1988 Questions	0	24	0
Number of 1992 Questions	50	26	30
Grade 9 Mathematics			
Number of 1984 Questions	0	0	16
Number of 1988 Questions	0	16	0
Number of 1992 Questions	49**	31*	30**

* The numerical-response section contain three questions and four that are respectively not on the 1992 test or on the *AOT* 88 or *AOT* 84 tests.

** One question on the Grade 9 1992 *AOT* test was dropped. This question did not appear on either the 1988 *AOT* or 1984 *AOT* forms.

Methodology

Sampling of the schools involved in the study was carried out independently in grades 3, 6, and 9. Because of project design considerations, only schools with 24 or more students in regular English programs who wrote achievement tests in 1991 in the grade being sampled were included in the groups from which samples were drawn. At each of the three grade levels, all eligible schools were identified and listed. From each of these lists, random samples of schools were selected. The sample sizes were targeted for approximately 3 000 students at each grade level. Since the sampling was carried out independently at each grade level, some schools were randomly selected to participate at more than one grade.

Before test materials were shipped, the participating schools submitted copies of their class lists to the Student Evaluation Branch. Within each class, students were randomly assigned to write either the *AOT* 1984 test, the *AOT* 1988 test, or the *AOT* 1992 test. Along with test materials, the class lists were sent back to the schools with instructions assigning each student to a specific test. In addition, teachers were each sent a questionnaire concerned with assessing practice effects.

The students who wrote the 1984 achievement-over-time test are referred to hereafter as the *AOT* 84 group, the students who wrote the 1988 achievement-over-time test are referred to as the *AOT* 88 group, and the students who wrote the 1992 test are called the *AOT* 92 group to differentiate them from the students in the rest of the province who wrote the 1992 regular achievement test.

Before comparisons were made between the *AOT* 84 group and the students writing in 1984, and between the *AOT* 88 group and the students writing in 1988, it was necessary to verify that the students selected to participate in the special study were representative of students throughout the province. Since approximately one-third of the students sampled were assigned to the *AOT* 92 group, it was possible to compare their results with the provincial results. The large sample sizes allowed us to detect very small differences. Only differences where the probability of this difference occurring by chance was less than 0.01 were considered to be significant. Table 8-2 presents the findings. At all three grades, the means of the *AOT* 92 group and of the province were within 0.4 raw score points. None of these differences was statistically significant at the 0.01 level. As there were no significant differences between the means of the *AOT* 92 groups and the provincial means, we concluded that the samples of students in the special study were representative of all regular students in the province.

Table 8-2
Comparison of AOT Sub-groups with Provincial Results

	AOT 92 Group 1992 Items	1992 Province Actual	*AOT* 88 Group 1992 Items	1992 Province Actual	*AOT* 84 Group 1992 Items	1992 Province Actual
Grade 3 Social Studies						
Number of 1992 Questions	50	50	24	24	25	25
Raw Score Mean	38.7	38.0	18.5	18.5	19.5	19.3
Standard Deviation	8.3	8.9	4.1	4.5	4.0	4.5
Number of Students	856	31 599	856	31 599	857	31 599
Grade 6 Language Arts						
Number of 1992 Questions	50	50	26	26	30	30
Raw Score Mean	30.5	30.1	15.7	15.7	18.3	18.0
Standard Deviation	8.5	8.5	4.7	4.7	5.8	5.7
Number of Students	907	30 958	914	30 958	905	30 958
Grade 9 Mathematics						
Number of 1992 Questions	49	49	31	31	30	30
Raw Score mean	28.1	27.7	18.8*	17.4	16.6	16.4
Standard Deviation	9.6	9.7	6.3	6.4	6.3	6.4
Number of Students	11.3	24 522	954	24 522	1040	24 522

*The mean of the *AOT* 88 group is significantly different from the mean of the *AOT* 92 group on the 1992 questions.

However, as there were common questions across the three forms for a given subject, it was possible to carry out an additional check that the random assignment within the *AOT* group also resulted in sub-groups that were representative of the province.

On the 1992 questions, the differences between the means of the students in the special study and the means of students in the rest of the province are within 0.3 raw score points. These differences are not statistically significant at the 0.01 level. Based on these analyses, we concluded that the random assignment was successful for the Grade 3 Social Studies and the Grade 6 Language Arts and that these samples are representative of the province.

The exception is the *AOT* 88 sub-group for Grade 9 Mathematics. This sub-group scored 1.4 points higher than its provincial counterpart. This difference is significant at the 0.01 level. The *AOT* 88 sub-group is significantly superior to both the *AOT* 92 sub-group and the 1992 Grade 9 Mathematics population. The *AOT* 84 sub-group is representative of the province.

Where it was established that our samples were representative of the province, we were able to proceed with the comparisons between the 1992 students in the study and the students in 1984 and 1988. As stated earlier, we restricted our sampling to schools with an estimated minimum size of 24 students in the grade being sampled. When making comparisons with the previous years, we attempted to exclude students who wrote in the earlier years who were from schools that were smaller than the smallest school size in the 1991 samples. However, individual student data were not available for 1984 Grade 3 Social Studies and Grade 6 Language Arts. It was not possible, therefore, to exclude from these comparisons students from schools smaller than the school sizes in the 1992 sample.

Table 8-3 shows, for each grade, the number of common questions that were answered by both the 1992 *AOT* students and the students in the previous years, the means and standard deviations for these questions, and the number of students on which these statistics were based.

Differences between groups are not discussed at this stage as analysis of the *practice effects* can alter any conclusions drawn. More detailed analyses of the changes in achievement are described below for each grade.

Practice Effects Study ***Design***

In 1992, a questionnaire was sent to teachers of the *AOT* groups to elicit information about student preparation practices. The study was designed to allow us to detect any inflation of the marks in the 1988 *AOT* and 1984 *AOT* subgroups due to student experience with 1988 or 1984 questions before they wrote the *AOT* 92 tests.

Based on the teacher responses to the practice effects questionnaire, students are divided into "practice" and "no practice" groups. Students assigned to "practice" groups were reported to have used the 1988 (or 1984 as appropriate) questions and answers to practice for writing the 1992 achievement exams.

As with the main study, the means of 1992 questions allow us to verify the equal ability of groups of students in the "practice" and "no practice" groups. Differences in means for the 1988 or 1984 items allow us to detect a practice effect if it exists. The mean of the "no practice" group for each subsample is then compared with the respective 1988 or 1984 population and conclusions about achievement over time are drawn.

Table 8-3
Achievement-Over-Time Comparison of Descriptive Statistics

Grade	*AOT* 88 Group (wrote in 1992)	Regular 1988 Students	*AOT* 84 Group (wrote in 1992)	Regular 1984 Students
Grade 3 Social Studies				
Number of Questions	26	26	25	25
Raw Score Mean	18.3	17.2	17.6	15.2
Standard Deviation	5.2	5.0	4.7	5.0
Number of Students	851	29 961	857	25 775
Grade 6 Language Arts				
Number of Questions	24	24	20	20
Raw Score Mean	15.4	15.2	13.7	13.6
Standard Deviation	5.1	4.8	3.3	303
Number of Students	914	32 069	915	38 812
Grade 9 Mathematics				
Number of Questions	16	16	16	16
Raw Score mean	12.6*	11.9	12.2	11.4
Standard Deviation	2.8	3.0	2.5	N/A**
Number of Students	954	25 290	1 040	27 121

* The mean is taken from a subgroup that is significantly more able than that of the *AOT* 92. An equated mean of 11.1 would be considered more representative of the 1992 population.

** The original student response data for 1984 were not available. Question difficulties were used to reconstruct the means, but standard deviations could not be reconstructed.

Conclusions

Social Studies 3

Practice effects were found in both the *1988 AOT* and *1984 AOT* groups. Without this evidence, we could have concluded that achievement had improved since 1988 and 1984. When practice effects are taken into account, however, achievement in 1992 has not changed significantly from 1988 but has improved from that in 1984. This conclusion should be viewed with caution as the number of students reported to have practiced was only 204 from a sample of 523 students that could be identified from the practice effects questionnaire.

Language Arts 6

For the 1988 *AOT* group, a demonstrable practice effect was found among students who practiced on 1988 questions and answers compared to those who did not. There also appears to be a practice effect for the 1984 *AOT* sample, but the small number of students reported to have practiced casts doubt on this conclusion. In spite of evidence of practice effect, we can retain a conclusion of no change in achievement from 1988 or 1984.

Mathematics 9

For the 1988 *AOT* group, the small number of students who practiced with answers, coupled with differences in ability level between the "practice" and "no practice" groups, leaves us unable to establish with certainty that a practice effect did occur. The lack of students who were reported to have practiced means there is no practice effect that would affect interpretation of the results. We conclude that achievement in 1992 has not changed from 1988 but has improved over 1984.

Written-Response Study Design

Students' writing performance has been of particular interest to educators and to the public since the beginning of the Achievement Testing Program. Because of this interest, a study was initiated to compare 1992 writing with 1988 writing and 1984 writing in Grade 6 English Language Arts. This was a descriptive study that required teacher-readers to take a research or reader-as-observer look at the papers they read, rather than the usual evaluative or reader-as-assessor view of a teacher-marker. No attempt was made to rescore papers; rather, teacher-readers described features of the 1992, 1988, and 1984 writing in the five scoring categories:

- Content
  - the effectiveness of ideas/details/specifics chosen by the writer
  - how effectively the purpose is achieved
  - whether the reader's interest has been captivated and maintained

- Organization
  - focus
  - coherent order
  - connections between events and/or details
  - closure

- Sentence Structure
  - the degree to which the writer frames grammatically correct sentences
  - the effectiveness and variety of sentence type and length

- Vocabulary
  - the effectiveness and accuracy of the words and expressions selected by the writer

- Conventions
  - mechanics
  - grammar

Comparisons were made at two standards: *Acceptable (3)*, which represents work at an acceptable level for students completing Grade 6, and *Excellent (5)*, which represents outstanding work for students completing Grade 6.

Methodology

Papers read in the study were selected at random from papers that received scores of *Acceptable (3)* or *Excellent (5)* on the June 1992, June 1988, and June 1984 achievement tests.

A group of experienced teacher-readers, representing all major regions of the province and a variety of school settings, reviewed the selected papers.

Working alone, then in pairs, and then discussing the papers as a group, the teacher-readers described the papers for features of *content, organization, sentence structure, vocabulary,* and *conventions.*

They then compared their descriptions of 1992, 1988, 1984 *Acceptable (3)* and *Excellent (5)* papers to draw conclusions.

Results

Acceptable (3)

Teacher-readers felt that papers judged to be *Acceptable (3)* in 1992 were not significantly different from 1984 *Acceptable (3)* papers. Although they felt that 1988 *Acceptable (3)* papers were in the range of 1992 *Acceptable (3)* papers, they found both the 1992 and the 1984 papers to be generally superior to the 1988 papers. Teacher-reader comments on key features of these papers are summarized below.

Acceptable (3) Papers in English Language Arts 6

Key Features of 1992 Acceptable (3) Papers	Key Features of 1988 Acceptable (3) Papers	Key Features of 1984 Acceptable (3) Papers
Content	**Content**	**Content**
•purpose established and sustained	•purpose established but not generally sustained	•purpose established and sustained
•clear idea of storyline development	•lack of plot continuity; disjointed story lines	•sequential development; simple recounting of events
•relevant but predictable supporting details	•vague details that do not support purpose	•some supporting details evident
Organization	**Organization**	**Organization**
•introductions generally either too sketchy or too complex	•introductions often not attempted; writers assumed prompt was sufficient	•simplistic restatements of story prompt used as introductions
•awareness of need to sequence events and details	•awareness of need to sequence events; coherence weakened by inclusion of irrelevant details	•awareness of need to sequence events and details

•weak or missing transitions were common in all three years
•appropriate but abrupt closures were common in all three years

Sentence Structure	**Sentence Structure**	**Sentence Structure**
•attempt to imbed multiple ideas into sentences	•one idea per sentence	•one idea per sentence

In all three years, teachers noted:
•lack of variety of sentence type or length
•simple sentences predominate; few clauses or phrases used
•when compound sentences occur, students tend to use the conjunction "and"

Vocabulary	**Vocabulary**	**Vocabulary**
•specific words attempted	•few vocabulary risks taken	•few vocabulary risks taken

•students in all three years could use general words accurately

Conventions	**Conventions**	**Conventions**
•spelling errors common; errors relatively phonetic	•few spelling errors	•few spelling errors
•some problems with tense	•some problems with tense	•good handling of tense
•pronoun-antecedent problems common	•some pronoun-antecedent problems	•good handling of pronouns and antecedents

•proficient quotation mark usage in all three years

Excellent (5)

Teacher-readers felt that papers judged to be *Excellent (5)* in 1992, 1988, and 1984 were all within the same range. A summary of the teacher-reader comments on significant differences and similarities in the five reporting categories follows.

Excellent (5) Papers in English Language Arts 6

<table>
<tr><th>Key Features of 1992
Excellent (5) Papers</th><th>Key Features of 1988
Excellent (5) Papers</th><th>Key Features of 1984
Excellent (5) Papers</th></tr>
<tr><td>Content</td><td>Content</td><td>Content</td></tr>
<tr><td>•lack of plot plausibility common</td><td>•appropriate ideas and details used to develop story lines</td><td>•appropriate ideas and details used to develop story lines</td></tr>
<tr><td>•inappropriate supporting details common</td><td>•good use of supporting details</td><td>•good use of supporting details</td></tr>
<tr><td colspan="3">•students in all three years were able to clearly establish a purpose for their writing
•students in all three years captured reader interest by writing with imagination and creativity</td></tr>
<tr><td>Organization</td><td>Organization</td><td>Organization</td></tr>
<tr><td colspan="3">In all three years, teachers noted:
•introductions were present but generally weak
•events and details were arranged in a purposeful, effective order
•transitions were generally used well
•abrupt and/or contrived endings were common</td></tr>
<tr><td>Sentence Structure</td><td>Sentence Structure</td><td>Sentence Structure</td></tr>
<tr><td>•some variety of sentence type and length but frequent sentence fragment problems noted</td><td>•good variety of sentence type and length used regularly for effect</td><td>•some variety of sentence type and length</td></tr>
<tr><td colspan="3">•effective, consistent control of sentences was seen in all three years</td></tr>
<tr><td>Vocabulary</td><td>Vocabulary</td><td>Vocabulary</td></tr>
<tr><td>•specific or descriptive verbs tended to be well used</td><td>•specific or descriptive adjectives, verbs, and adverbs well used to describe settings and characters; elaborate, descriptive phrases also used</td><td>•specific or descriptive adjectives tended to be well used</td></tr>
<tr><td>•few vocabulary risks taken</td><td>•willingness to take vocabulary risks, but this led to some poor word choices</td><td>•few vocabulary risks taken</td></tr>
<tr><td>Conventions</td><td>Conventions</td><td>Conventions</td></tr>
<tr><td>•few spelling errors</td><td>•few spelling errors</td><td>•few spelling errors</td></tr>
<tr><td>•good handling of tense</td><td>•good handling of tense</td><td>•inconsistent use of tense</td></tr>
<tr><td colspan="3">•students in all three years consistently used quotation marks well</td></tr>
</table>

Concluding Comments

The question that guided this study was: **Has writing by Grade 6 English Language Arts students improved from 1984 to 1992?** Teachers participating in the study felt that 1992 students at the *Acceptable (3)* and *Excellent (5)* levels of performance produced writing of similar quality when compared to their 1984 and 1988 counterparts.

However, teacher-readers made several observations related to the changing nature of the writing over the three test years.

The portrayal of adults in the students' writing was markedly different on the three tests. In 1984, adults were portrayed as either adversaries, such as poachers and criminals, or as responsible parents and law enforcers. These law-abiding adults were often utilized in the solution to whatever dilemma had emerged in the students' writing, although many students used children to solve their story problem. Adults in 1988 papers were mainly developed as adversaries or as dim-witted parents, and these adults were rarely used to help resolve story conflicts. Rather, 1988 writers provided solutions based on either the ineptitude of the criminals, the ingenuity of the children, or some form of magic. By 1992, adults were still seen as adversaries, but were rarely seen in other roles. These stories were most often resolved by a reliance on superhuman powers with which the children had been imbued. These children were easily able to out-run, out-think, out-fight, and "out-everything" all their adversaries.

The type of prompt used on the three tests may have influenced the type of writing produced by students. In 1984 and 1992, the prompts placed two children in a realistic setting, whereas the 1988 prompt provided greater potential for elements of fantasy to be incorporated into the response.

The change in how students handled resolutions to their plot problems may be related to the story settings they tended to use. On all three tests, most students centred their stories on human adversaries; few monsters or supernatural creatures were noted in the writing. In 1984, these human adversaries usually wreaked havoc in a real-life setting. Many of the 1988 writers set their stories in a fantasy world in which obvious rules of cause and effect were nonetheless adhered to. A considerable number of 1992 writers also used a fantasy setting, but one in which gaps in plausibility were more of the norm. Perhaps because they tended to have realistic settings more often, the 1984 papers also contained far more unhappy or hopeless endings than did the 1988 or 1992 papers.

One feature seen only in the 1992 papers was that writers exhibited no sense of ownership, privacy, or personal property. Children in these stories went into strangers' homes, rummaged through private articles in other people's trunks, and used anything they wanted regardless of where they found it. In the 1984 and 1988 writing, children who helped to retrieve some valuables usually got to keep a reward. In the 1992 stories, children often got to keep everything they found and thereby became wealthy.

While not in the realm of assessment, teachers also noted that penmanship quality has deteriorated over the three test years. As well, in writing from all three years, both themes and supporting details strongly refected the popular media influences of the time. Story lines and incidents from popular television shows, movies, and cartoons were often used as the basis for a plot.

Finally, all teacher-readers felt that there had been a shocking change in the nature of the stories from 1984 to 1992. Teachers referred to the 1984 writing as "more child-like" and considerably "less violent" than writing in 1992.

Section 9
Grade 6
French Language Arts
(Français 6^e année)
Immersion Program

General Description

The Grade 6 French Language Arts achievement test was administered to students in the French Immersion program. It was designed to reflect the writing and reading components of the program of studies: *Programme d'études: Le français à l'élémentaire: français—immersion*, Language Services, Alberta Education (1987).

The test, Français 6^e année, had two parts, *Part A: Writing* and *Part B: Reading*, each worth 50% of the total test mark.

Statistics are based on the results achieved by the 2055 Alberta students who wrote the test in June 1992. This section of the report answers the following questions:

- How many Grade 6 students wrote the test?
- What percentage of Grade 6 students who wrote the test attained the *acceptable standard* or higher in French Language Arts according to provincial criteria?
- What percentage of Grade 6 students who wrote the test attained the *standard of excellence* or higher according to provincial criteria?
- What did Grade 6 students know and what could they do in French Language Arts?
- What parts of the French Language Arts curriculum caused Grade 6 students difficulty?

Summary of Results

Results show that 83.2% of students who wrote the test achieved the *acceptable standard* or higher and 12.6% achieved the *standard of excellence* or higher on the total test.

Content of the Test

Part A: Writing consisted of one writing assignment, which provided the beginning of a story and an illustration. Students had to continue and complete the story.

The assignment set a specific writing task but allowed students a lot of freedom in choosing what to write and how to write it. Students had 80 minutes in the morning to do the writing assignment. Markers scored the paper on five dimensions: Content, Organization, Sentence Structure, Vocabulary, and Conventions.

Part B: Reading consisted of 50 multiple-choice questions based on eight reading selections. Students had one hour in the afternoon to do this part. Reading selections were chosen to reflect the literary genres prescribed in the *Program of Studies* and to reflect the interests and reading level of Grade 6 students. They included Canadian material, and all selections met Alberta Education's criteria for Tolerance and Understanding.

Test Blueprint

Table 9-1 presents the blueprint used to develop *Part A: Writing* of the Grade 6 French Language Arts achievement test. It describes the writing assignment, the scoring categories, and the allocation of marks.

Table 9-1
Grade 6 French Language Arts
Immersion Program
Achievement Test Blueprint
Part A: Writing
June 1992

Reporting Category (Scoring Guide)*	Description of Writing Assignment	Range of Marks
Content** (Selecting details to achieve a purpose) Events and/or actions should be plausible and appropriate to the student's purpose for communicating. The student should be able to describe characters and settings that are appropriate within the context of terms of references established by the student.	The writing assignment follows a writing prompt. The assignment allows the student to select the format that will best fit his/her approach to the prompt. The student has to continue and complete a story. The writing task is specific but allows the student much latitude in the choice of details, actions, and events	5—Excellent 4—Proficient 3—Satisfactory 2—Limited 1—Poor INS—Insufficient
Organization** (Organizing details into a coherent whole) The student should be able to place events in a coherent order.		
Sentence Structure (Structuring sentences effectively) The student should be able to use a variety of sentence structures effectively in writing.		
Vocabulary (Selecting words and expressions correctly and effectively) The student should be able to use words and expressions effectively in writing.		
Conventions (Using the conventions of language correctly and effectively) The student should be able to communicate clearly in writing by adhering to appropriate spelling, grammar, punctuation, and capitalization.		

* These reporting categories are based on the *Program of Studies for French Language Arts* (French Immersion), Language Services, Alberta Education (1987)

** These two categories are each weighted to be worth twice as much as each of the other three.

Table 9-2 presents the blueprint used to develop *Part B: Reading* of the Grade 6 French Language Arts achievement test. It shows the distribution of questions according to the curricular elements (skills) and according to the cognitive level being assessed.

Table 9-2
Grade 6 French Language Arts
Immersion Program
Achievement Test Blueprint
Part B: Reading
June 1992

	Question Numbers by Cognitive Level				
Reporting Category*	**Identifying and Selecting**	**Regrouping and Inferring**	**Evaluating and Judging**	**Number of questions**	**% of test**
1. Relationship between the author and the reader The student should be able to identify, to infer, and to evaluate the author's purpose and the means used in the text (form and style) to achieve it.		1, 6, 20	19, 24, 26, 39, 50	8	16
2. Associating meanings The student should, based on his/her knowledge and on the given context, be able to understand a reading selection by identifying, inferring, or evaluating details given about characters or events (actions, motives, values, conflicts, etc.). Also, the student should be able to understand words and expressions in context.	11, 16, 28, 29, 33, 34, 35, 37, 40	2, 3, 4, 9, 15, 17, 18, 21, 22, 23, 36, 43, 46, 49	10, 13, 27, 41, 42, 44, 45, 47	31	62
3. Main ideas, opinions, and conclusions The student should be able to identify, infer, and evaluate the information within the reading selection to understand its meaning, to understand expressed opinions, to deduce the main idea, and to predict possible outcomes or conclusions.	30, 38	5, 14, 32, 48	7, 8, 12, 25, 31	11	22
Number of questions	11	21	18	50	
% of test	22	42	36		100

* These reporting categories are based on the *Program of Studies for French Language Arts* (French Immersion), Language Services, Alberta Education (1987)

Student Participation

Students who were enrolled in Grade 6 French Language Arts could write the achievement test. Participation was decided by each jurisdiction; 2055 students wrote the 1992 test. Table 9-3 presents the number and percentage distribution of students who wrote the Grade 6 French Language Arts achievement test.

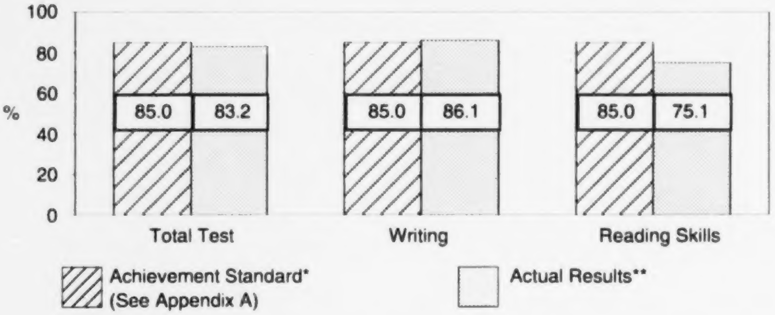
Table 9-3
Grade 6 French Language Arts
Immersion Program
Student Participation
June 1992

Category	Number of Students	Percentage of Students
Total Number of Students in Immersion Program as Reported by Schools, June 1992	2128	100.0
Students Who Wrote the Test	2055	96.6
Students Absent	66	3.1
Students Present but not Participating	7	0.3

Results in Relation to Standards

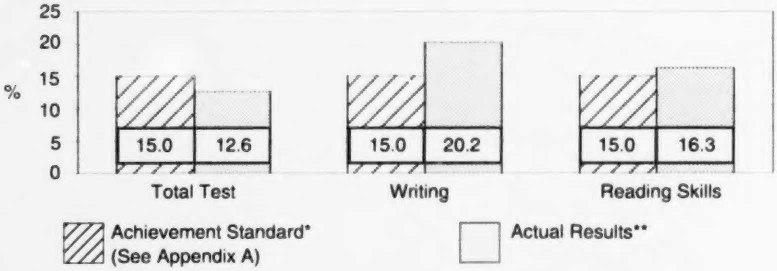
Figures 9-1 and 9-2 and Table 9-4 show the number and the percentage of students achieving the *acceptable standard* or higher and the *standard of excellence* or higher on the total test and on components of the test.

Figure 9-1
Grade 6 French Language Arts
Immersion Program
Percentage of Students Achieving Acceptable Standard or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the acceptable standard or higher
** the percentage of students in the province who met the acceptable standard or higher

Figure 9-2
Grade 6 French Language Arts
Immersion Program
Percentage of Students Achieving Standard of Excellence or Higher on the Total Test and on Components of the Test
June 1992



* the percentage of students in the province expected to meet the standard of excellence or higher
** the percentage of students in the province who met the standard of excellence or higher

Table 9-4
Grade 6 French Language Arts
Immersion Program
Students Achieving Standards on the Total Test and on Components of the Test
June 1992

Reporting Category	Maximum Possible Score	Provincial Assessment Standard* (Raw Score)	Provincial Achievement Standard** (Per cent)	Students Achieving Assessment Standard or Higher		
				Expected Number	Actual Number	Actual Per cent
Standard of Excellence or Higher						
Total Test***	100	80	15	308	258	12.6
Writing Only	35	28	15	308	415	20.2
Reading Skills Only	50	40	15	308	334	16.3
Acceptable Standard or Higher						
Total Test***	100	51	85	1 747	1 709	83.2
Writing Only	35	18	85	1 747	1 709	86.1
Reading Skills Only	50	25	85	1 747	1 544	75.1
Below Acceptable Standard on Both Components	N/A	N/A	N/A	N/A	134	6.5

*__The Provincial Assessment Standard__ is a score determined by appropriate standard-setting procedures and is the lowest score a student must achieve for his/her performance to be judged "acceptable" and/or "excellent" in relation to curricular expectations. See Appendix A.

**__The Provincial Achievement Standard__ refers to the percentage of students expected to meet or exceed the Provincial Assessment Standard. See Appendix A.

***The Writing score is multiplied by 50/35 before being added to the Reading score so that both components are weighted equally.

Levels of performance on the test were usually close to expectations. Slightly fewer students than expected met the *standard of excellence* on the total test, and slightly more met the *standard of excellence* for each component. The percentage of students meeting the *acceptable standard* for the total test and for written response were very close to expectations, but nearly 10% fewer students than expected met the *acceptable standard* for reading skills.

The number of students achieving or exceeding the *acceptable standard* and the *standard of excellence* for each jurisdiction was analyzed to determine whether jurisdictions were below expectations, meeting expectations, or above expectations. Jurisdictions classified as meeting expectations were those for whom the difference between the actual number of students and the expected number of students at or above expectations was not statistically significant. A 95% confidence interval was used; this criterion means that differences are only reported when there is a 5% or smaller probability that a difference of that size would occur by chance.

The results are reported in Table 9-5. The percentages are based on 39 jurisdictions (including private schools). One jurisdictions was too small to give reliable results.

Table 9-5
Grade 6 French Language Arts
Immersion Program
Percentage Distribution of Jurisdictions Meeting Achievement Standards on the Total Test and on Components of the Test
June 1992

Reporting Category	Percentage Distribution of Jurisdictions		
	Not Meeting Provincial Achievement Standard (Per Cent)	**Meeting Provincial Achievement Standard (Per Cent)**	**Exceeding Provincial Achievement Standard (Per Cent)**
Standard of Excellence or Higher			
Total Test	5.1	92.3	2.6
Writing Only	0.0	76.9	23.1
Reading Skills Only	5.1	79.5	15.4
Acceptable Standard or Higher			
Total Test	23.1	71.8	5.1
Writing Only	5.1	89.7	5.1
Reading Skills Only	46.2	53.8	0.0

Results for Part A: Writing

Raw scores were calculated by adding the marks earned for each of the five reporting categories. The Content and Organization categories had a weighting of 10 marks each and the Sentence Structure, Vocabulary, and Conventions categories had a weighting of 5 marks each.

Results for *Part A: Writing* are most clearly understood in the context of the assignment to which students responded and in the context of the scoring descriptors. Complete scoring guides are available from the Student Evaluation Branch, Alberta Education. All participating schools should have extra copies of *Part A: Writing* booklets to use in conjunction with information provided in this Provincial Report.

Although the papers were scored on a one-marker system, 96 papers randomly selected among all papers written by French Immersion and Francophone students were re-marked so that a second set of scores was available to confirm scoring consistency. Of the scores awarded on the second reading, 88.5% were identical to the original score on the same scale or varied by only one point. It is important to note that the one-marker system produces results that are reliable for groups of 25 or more students. Achievement test scores are not intended to be reliable for individual students.

Statistics in Table 9-6 are based on results achieved by 2055 students.

Table 9-6
Grade 6 French Language Arts
Immersion Program
Percentage Distribution of Scores by Reporting Category
Part A: Writing
June 1992

Scoring Scale	Reporting Category				
	Content	**Organization**	**Sentence Structure**	**Vocabulary**	**Conventions**
(5) Excellent	12.3	9.9	10.9	9.1	3.3
(4) Proficient	27.4	28.9	28.0	23.7	18.7
(3) Satisfactory	45.7	44.3	48.8	54.2	50.7
(2) Limited	12.7	14.6	10.9	12.0	23.5
(1) Poor	1.8	2.1	1.2	0.9	3.7
(INS) Insufficient	0.1	0.1	0.1	0.1	0.1

Results for Part B: Reading

Table 9-7 shows the percentage of students who chose each alternative (A,B,C, and D) for each multiple-choice question. The correct response for each question is also given. The results shown in Table 9-7 can best be used in conjunction with similar tables in the jurisdiction and school reports. Variations in patterns of students' responses to questions can help to indicate strengths and weaknesses in local educational programs.

Table 9-7
Grade 6 French Language Arts
Immersion Program
Results for Individual Multiple-Choice Questions*
June 1992

		Distribution of Responses (%)						Distribution of Responses (%)			
Item	**Key**	**A**	**B**	**C**	**D**	**Item**	**Key**	**A**	**B**	**C**	**D**
1	A	77.7	4.4	3.1	14.6	26	A	56.8	8.7	27.4	6.3
2	D	5.6	17.6	10.8	65.9	27	D	12.5	6.9	6.9	73.5
3	D	2.6	5.7	10.1	81.5	28	A	54.2	11.6	12.6	21.3
4	A	71.3	11.4	12.7	4.5	29	C	8.0	20.7	57.3	13.6
5	B	20.6	60.2	12.4	6.8	30	D	10.0	6.2	11.6	71.8
6	C	8.5	5.2	64.5	21.4	31	A	63.9	7.6	18.1	10.0
7	D	20.0	15.0	5.0	59.6	32	C	12.8	10.3	68.8	7.6
8	B	5.1	83.7	6.9	3.9	33	B	22.6	51.2	16.9	8.4
9	C	35.8	17.7	38.3	7.5	34	A	88.7	6.2	2.3	2.2
10	D	9.3	15.9	28.5	45.9	35	C	20.8	4.8	64.5	9.4
11	B	18.0	44.4	22.6	14.7	36	B	16.4	54.1	24.2	4.9
12	A	57.0	13.6	16.6	12.5	37	C	3.9	7.2	82.9	5.6
13	B	16.7	70.8	6.6	5.6	38	C	8.4	10.5	73.2	7.5
14	C	10.0	11.0	64.9	13.9	39	B	6.7	57.6	8.3	26.2
15	A	37.2	31.7	25.5	5.1	40	C	7.5	7.4	75.1	9.1
16	A	54.2	36.1	3.9	5.7	41	D	11.0	10.1	4.3	73.7
17	D	7.5	2.2	5.0	85.1	42	C	7.5	19.4	67.0	4.9
18	D	6.7	4.4	9.2	79.6	43	A	83.6	4.3	6.0	5.0
19	C	5.7	6.6	81.2	6.3	44	D	16.0	12.3	16.6	53.6
20	D	11.4	4.3	19.0	65.0	45	B	13.5	36.5	40.8	7.4
21	B	18.0	47.5	12.8	21.5	46	B	9.8	30.3	9.0	49.2
22	B	20.5	59.1	10.5	9.5	47	A	49.9	27.4	11.0	9.6
23	C	6.2	4.6	76.2	12.7	48	A	54.0	10.1	18.6	15.0
24	D	18.5	15.9	11.1	54.2	49	A	29.7	9.7	49.0	9.4
25	D	8.6	7.2	15.6	68.3	50	C	22.5	14.9	39.5	20.9

* The sum of the percentages for each question may be less than 100% because the No Response category is not included.

Examiner's Observations

Part A: Writing

Teachers who assisted with marking were generally satisfied with the overall quality of students' writing. Students obviously drew from their previous experience of reading and writing stories in class in order to complete the assignment. They presented sufficient content well enough to maintain the reader's interest. Their writing performance supports teacher comments that there is more writing going on in the classroom. Content, Organization, Sentence Structure, and Vocabulary in particular were judged to be of good quality. Students continue to have difficulty with Conventions. In this category, fewer students achieved the level of excellence and a greater number were scored as limited. Certain common errors of immersion students—e.g., "Je faut faire . . .", or disregard for gender,—appear to have become a part of many students' language patterns.

Markers had the following comments:

- Students know that their writing will be read and they write with a purpose.

- The *Program of Studies* emphasizes reading and writing, and students are writing more and with better quality.
- Students continue to have a weak grasp of conventions. Some aspects of conventions that should have been mastered by the sixth grade are not.

Part B: Reading

Markers and standard setters thought that the reading portion of the test represented an appropriate reading level for Grade 6 students. The variety and quality of reading selections, the Canadian content, and the themes dealt with in the readings were also judged to be very appropriate for Grade 6 students. Although students did very well on the test as a whole, not enough students met the *acceptable standard* in reading. Reading is such an essential skill that students need to continue to develop an appreciation for reading and reading comprehension throughout their schooling.

Sample questions are given below to highlight the strengths and weaknesses of students achieving at the *acceptable standard* and at the *standard of excellence*. For each sample question, the correct answer is marked with an asterisk and the percentage of students choosing each alternative is given (these figures do not add up to 100 because a few students did not answer the question).

Acceptable Standard—Sample Questions and Commentary

13. La coccinelle utilise ses deux ailes cuirassées **surtout** pour

16,7 **A.** se glisser
70,8 ***B.** se protéger
6,6 **C.** éviter la sécheresse
5,6 **D.** vivre sous des tas de feuilles

Question 13 required students to judge, among four possible alternatives, the principal importance of the ladybird beetle's armoured wings according to the information given in the passage. Most students achieving at the *acceptable standard* were able to choose the correct answer.

48. D'après l'auteur, la recette miracle qui a changé Timothée était

54,0 ***A.** son accueil dans une famille de dix enfants
10,1 **B.** sa fierté et son indépendance
18,6 **C.** son cours de dressage
15,0 **D.** son intelligence

Question 48 asked students to infer one of the main ideas of the passage. Many students performing at the *acceptable standard* had difficulty with this question.

The strengths of students who achieved at the *acceptable standard* include

- the ability to identify and select main ideas and supporting details
- the ability to make inferences and judgments of a relatively simple nature

Many students achieving at the *acceptable standard* had difficulty

- identifying and selecting main ideas and supporting ideas when these were not obvious
- making inferences and judgments that required deeper thinking

Standard of Excellence—Sample Questions and Commentary

22. Quand le poète dit: "Chacun tracera sa voie" (vers 10), il veut dire que chaque personne

20,5 **A.** veut connaître son avenir
59,1 ***B.** suit son propre chemin
10,5 **C.** décide où elle va vivre
9,5 **D.** part à la découverte

Question 22 required students to identify the correct meaning of an expression in a poem. Most students achieving the *standard of excellence* were able to select the right answer.

45. Timothée était un candidat difficile à l'adoption **surtout** parce qui'il était

13,5 **A.** trop fier
36,5 ***B.** mal éléve
40,8 **C.** malpropre
7,4 **D.** trop jeune

Question 45 asked students to infer and to evaluate an important idea in the reading selection. Some students achieving the *standard of excellence* had difficulty selecting the correct answer. Too many students chose alternative C, which gave a minor, not the main reason.

Concluding Comments

The test results in this report show that student achievement in French Language Arts is generally satisfactory. However, too many students did not meet the *acceptable standard* for reading. Continued attention to reading comprehension would help to improve these results.

Section 10*

Français 6e année
Programme francophone

Description générale

Le Test de rendement, Français 6e année, a été administré aux élèves des classes francophones. Ce test reflète les composantes «Écriture» et «Lecture», *Le français à l'élémentaire: français—langue maternelle: programme d'études*, Language Services, Alberta Education (1987).

Le test comportait deux parties, *Partie A: Production écrite* et *Partie B: Lecture*. Chaque partie valait 50% de la note totale du test.

L'information présentée dans cette section est basée sur les résultats des 200 élèves des classes francophones qui ont écrit ce test en juin 1992. Cette section du rapport donne des réponses aux questions suivantes:

- Combien d'élèves de 6e année ont écrit le test?
- Quel pourcentage des élèves de 6e année qui ont écrit le test ont atteint ou surpassé le *standard acceptable* selon les critères provinciaux?
- Quel pourcentage des élèves de 6e année qui ont écrit le test on atteint ou surpassé le *standard d'excellence* selon les critères provinciaux?
- Quelles connaissances et quelles habiletés en français avaient les élèves de 6e année?
- Quelles parties du programme de français ont causé des difficultés pour les élèves de 6e année?

Résumé des résultats

Les résultats montrent que, pour le test en entier, 87,5% des élèves qui ont écrit le test ont atteint ou surpassé le *standard acceptable* et 24,5% ont atteint ou surpassé le *standard d'excellence* dans le test en entier.

Contenu du test

Dans la *Partie A: Production écrite*, on demandait aux élèves de compléter une histoire dont on donnait le commencement. Le début de l'histoire donné était accompagné d'une illustration.

L'examen présentait une tâche précise de production écrite mais laissait à l'élève une grande latitude dans la sélection du contenu et de la façon de le présenter. Les élèves avaient 80 minutes le matin pour faire leur production écrite. Les correcteurs ont noté les productions écrites sur cinq domaines: contenu, développement, structures de phrases, vocabulaire et usage.

La Partie B: Lecture comportait 50 questions à choix multiple basées sur huit textes de genres littéraires différents. Les élèves avaient une heure l'après-midi pour compléter cette partie. Les textes de lecture ont été choisis pour représenter les différents genres littéraires au programme et aussi selon les intérêts et niveaux de lecture des élèves de 6e année.

Plusieurs sélections étaient des textes canadiens et tous ont rencontré les exigences de tolérance et compréhension de Alberta Education.

---

* An English translation of this section of the report is available upon request by calling Mr. Dennis Belyk, Assistant Director, at 427-0010.

Schéma directeurs du Test de rendement

Le tableau 10-1 présente le schéma utilisé pour développer la *Partie A: Production écrite* du Test de rendement, Français 6^e année. Ce schéma décrit les domaines d'évaluation, la tâche et le barème de notation.

Tableau 10-1
Français 6^e année
Programme francophone
Schéma du Test de rendement
Partie A: Production écrite
Juin 1992

Domaine d'évaluation*	Description de tâche	Barème de notation
Contenu** (choisir des détails pour atteindre un but) Les événements et/ou actions devraient être plausibles et appropriés à l'intention de communication de l'élève. L'élève devrait pouvoir choisir des détails pour décrire des personnages et un cadre qui soient appropriés dans le contexte qu'il a établi.	L'exercice consiste à continuer une histoire dont le commencement est donné. Il s'agit d'une tâche précise, mais qui permet à l'élève une grande latitude dans le choix de détails, d'actions ou d'événements.	5—Excellent 4—Compétent 3—Satisfaisant 2—Limité 1—Pauvre INS—Insuffisant
Développement** (organiser les détails en un tout cohérent) L'élève devrait pouvoir placer les événements dans un ordre cohérent.		
Structures de phrases (bien structurer les phrases) L'élève devrait pouvoir bien employer diverses structures de phrases par écrit.		
Vocabulaire (bien choisir et bien employer les mots et expressions) L'élève devrait pouvoir employer les mots et expressions appropriés par écrit.		
Usage (bien employer les conventions de la langue) L'élève devrait pouvoir communiquer clairement par écrit en respectant les règles de l'orthographe, de la grammaire, de la ponctuation et des majuscules.		

* Ces cinq catégories pour le rapport se trouvent dans la section «Écriture», *Le français à l'élémentaire: français—langue maternelle: programme d'études*, Language Services, Alberta Education (1987).

** Chacune de ces deux catégories a une valeur deux fois plus grande que chacune des trois autres catégories.

Le tableau 10-2 présente le schéma utilisé pour développer la Partie B: Lecture du Test de rendement, Français 6^e année. Ce schéma montre la répartition des questions selon les éléments/habiletés au programme et selon les niveaux cognitifs évalués.

Tableau 10-2
Français 6^e année
Programme francophone
Schéma du Test de rendement
Partie B: Lecture
Juin 1992

	Niveau cognitif				**%**
Éléments/Habiletés*	**Identifier et sélectionner**	**Regrouper et inférer**	**Évaluer et juger**	**Nb. de questions**	**du test**
1. **Rapport entre l'auteur et le lecteur** L'élève devrait être capable d'identifier, d'inférer et d'évaluer l'intention de communication de l'auteur et d'établir un rapport entre cette intention et les moyens utilisés dans le texte (forme et style) pour la transmettre.		1, 6, 20	19, 24, 26, 39, 50	8	16
2. **Association des idées et des détails** L'élève devrait être capable, à partir de ses connaissances et en tenant compte du contexte, de saisir le sens d'un passage en identifiant, en inférant ou en évaluant les détails portant sur les personnages ou sur les faits (actions, motifs, valeurs, conflits, etc.). De plus, l'élève devrait être capable de déceler le sens des mots et des expressions, selon le contexte.	11, 16, 28, 29, 33, 34, 35, 37, 40	2, 3, 4, 9, 15, 17, 18, 21, 22, 23, 36, 43, 46, 49	10, 13, 27, 41, 42, 44, 45, 47	31	62
3. **Idées principales, opinions et conclusions** L'élève devrait être capable d'identifier, d'inférer et d'évaluer les idées du texte présenté (le fond) afin de saisir le sens, d'en déduire l'idée principale, de saisir les opinions exprimées, ou de prédire les suites possibles ou la conclusion.	30, 38	5, 14, 32, 48	7, 8, 12, 25, 31	11	22
Nombre de questions	11	21	18	50	
% du test	22	42	36		100

*Ces **Éléments/Habiletés** se trouvent dans la section «Lecture», *Le français à l'élémentaire: français—langue maternelle: programme d'études*, Language Services, Alberta Education (1987).

Participation

Les élèves qui suivaient les cours de Français 6^e année pour francophones pouvaient écrire ce test. Chaque juridiction scolaire devait décider de sa participation; 200 élèves ont écrit le test de 1992. Le tableau 10-3 présente le nombre et le pourcentage d'élèves qui ont écrit le Test de rendement de Français 6^e année.

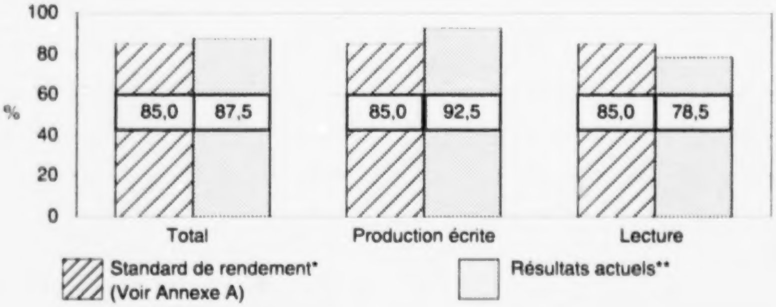
Tableau 10-3
Français 6^e année
Programme francophone
Participation des élèves
Juin 1992

Catégorie	Nombre d'élèves	Pourcentage d'élèves
Nombre total d'élèves dans le programme francophone tel que rapporté par les écoles, juin 1992	209	100,0
Élèves qui ont écrit le test	200	95,7
Élèves absents	4	1,9
Élèves présents, mais qui n'ont pas participé	5	2,4

Résultats par rapport aux standards

Les figures 10-1 et 10-2 et le tableau 10-4 montrent le pourcentage d'élèves qui ont atteint ou surpassé le *standard acceptable* et le *standard d'excellence* dans le test en entier et dans les parties du test.

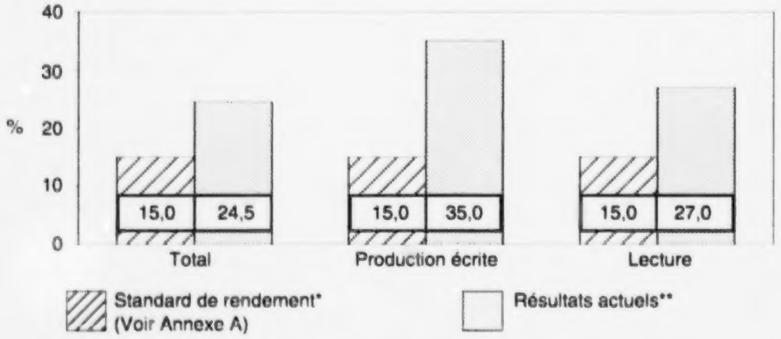
Figure 10-1
Français 6e année
Programme francophone
Pourcentage des élèves qui ont atteint ou surpassé le standard acceptable dans le test en entier et dans les parties du test
Juin 1992



* le pourcentage des élèves dans la province qu'on s'attend pouvoir atteindre ou surpasser le standard acceptable

**le pourcentage des élèves dans la province qui ont atteint le standard

Figure 10-2
Français 6e année
Programme francophone
Pourcentage des élèves qui ont atteint ou surpassé le standard d'excellence dans le test en entier et dans les parties du test
Juin 1992



* le pourcentage des élèves dans la province qu'on s'attend pouvoir atteindre ou surpasser le standard d'excellence

**le pourcentage des élèves dans la province qui ont atteint le standard

Tableau 10-4
Français 6^e année
Programme francophone
Étudiants qui ont atteint les standards
Juin 1992

Catégorie pour le rapport	Maximum possible	Standard provincial d'évaluation[*] (note brute)	Standard provincial de rendement[**] (pour cent)	Étudiants qui ont atteint ou surpassé le standard d'évaluation		
				Nombre attendu	Nombre actuel	Pourcentage actuel
Standard d'excellence on plus						
Total[***]	100	80	15	30	49	24,5
Production écrite seulement	35	28	15	30	70	35,0
Lecture seulement	50	40	15	30	54	27,0
Standard acceptable ou plus						
Total[***]	100	51	85	170	175	87,5
Production écrite seulement	35	18	85	170	185	92,5
Lecture seulement	50	25	85	170	157	78,5
Au dessous du standard acceptable sur les deux composantes	Ne s'applique pas	Ne s'applique pas	Ne s'applique pas	Ne s'applique pas	7	3,5

[*] Le standard provincial d'évaluation est une note établie par des procédures appropriées d'établissement de standards et représente la plus basse note que l'élèves peut atteindre pour que son rendement soit jugé «acceptable» ou «excellent» en fonction des attentes du programme. Voir Annexe A.

[**] Le standard provincial de rendement est le pourcentage d'élèves qu'on s'attend pouvoir atteindre ou surpasser le standard provincial d'évaluation. Voir Annexe A.

[***] La note de la Production écrite est multipliée par 50/35 avant qu'elle soit additionnée à la note de la Lecture de sorte que les deux composantes représentent une proportion égale.

Les niveaux de rendement sur le test ont généralement dépassé les attentes. Un peu moins d'élèves que prévu ont atteint le standard acceptable en lecture.

À cause du petit nombre de juridictions impliquées dans l'évaluation francophone, nous ne rapportons aucune analyse des résultats par juridiction comparée aux attentes.

Résultats pour la Partie A: Production écrite

On a calculé les notes brutes en additionnant les notes attribuées à chacun des cinq domaines d'évaluation. Les catégories Contenu et Développement valaient 10 points chacune et les catégories Structures de phrases, Vocabulaire et Usage valaient 5 points chacune.

Les résultats pour la *Partie A: Production écrite* sont le mieux compris dans le contexte de la tâche présentée à l'élève et dans le contexte des descripteurs qui font partie du barème de notation. Les guides de notation sont disponibles du Student Evaluation Branch, Alberta Education. Les écoles devraient avoir des copies supplémentaires du livret d'examen de la *Partie A: Production écrite* pour utiliser avec l'information présentée dans ce rapport provincial.

La production écrite a été notée par un seul correcteur. Cependant 96 copies choisies au hasard parmi toutes les copies écrites par les élèves des programmes francophones et d'immersion française ont été notées par un deuxième correcteur pour fournir un moyen de confirmer la compatibilité des notes; 88,5% des notes attribuées lors de la deuxième notation étaient soit identiques à la note originale dans la même catégorie ou bien variaient par seulement un point. Il est important de remarquer que la notation par un seul correcteur donne des résultats fidèles pour des groupes de 25 étudiants ou plus. Les Tests de rendement ne sont pas conçus pour donner des résultats fidèles pour des individus.

Tableau 10-5
Français 6^e année
Programme francophone
Distribution en pourcentage des notes par domaine d'évaluation
Juin 1992

	Domaine d'évaluation				
Barème de notation	**Contenu**	**Développement**	**Structures de phrases**	**Vocabulaire**	**Usage**
(5) Excellent	23,0	20,0	23,0	22,5	12,5
(4) Compétent	29,0	30,0	31,0	30,5	29,0
(3) Satisfaisant	38,0	38,5	39,5	39,5	44,0
(2) Limité	9,5	11,0	6,0	7,5	13,0
(1) Pauvre	0,5	0,5	0,5	0	1,5
(INS) Insuffisant ou Copie blanche	0	0	0	0	0

BEST COPY AVAILABLE

Résultats pour la Partie B: Lecture

Dans la *Partie B: Lecture,* chacune des 50 questions à choix multiple avait une valeur de un point. Le tableau 10-6 indique, pour chaque question, la bonne réponse ainsi que le pourcentage d'élèves qui ont choisi chaque réponse possible (A, B, C, D).

Les résultats présentés dans le Tableau 10-6 sont mieux interprétés si on examine en même temps les rapports de l'école ou de la juridiction et les textes et les questions au Test de rendement lui-même. Ceci donnerait un bon aperçu des forces et des faiblesses au niveau local.

Tableau 10-6
Français 6e année
Programme francophone
*Résultats pour chaque question à choix multiple**
Juin 1992

		Distribution des réponses (%)						Distribution des réponses (%)			
Question	**Clé**	**A**	**B**	**C**	**D**	**Question**	**Clé**	**A**	**B**	**C**	**D**
1	A	64,0	4,5	2,5	29,0	26	A	56,0	8,0	28,0	7,0
2	D	10,0	27,0	9,0	54,0	27	D	8,0	8,0	7,0	77,0
3	D	2,0	1,0	1,5	95,5	28	A	57,0	18,0	12,5	12,0
4	A	83,0	5,5	10,0	1,0	29	C	9,0	17,0	64,0	9,5
5	B	16,0	63,0	15,0	6,0	30	D	8,5	6,5	6,0	79,0
6	C	5,5	4,0	76,0	14,5	31	A	72,5	6,5	12,5	8,5
7	D	31,5	14,0	3,0	51,5	32	C	9,0	6,5	81,5	3,0
8	B	4,5	77,5	12,0	5,0	33	B	22,5	54,5	11,0	10,0
9	C	20,5	13,5	64,0	2,0	34	A	87,0	4,5	4,5	2,5
10	D	6,5	22,0	23,0	48,0	35	C	19,5	3,0	67,5	9,0
11	B	17,0	48,0	23,0	12,0	36	B	21,5	56,0	14,5	7,0
12	A	42,5	23,0	21,0	13,5	37	C	4,0	4,5	87,5	3,0
13	B	15,0	69,0	10,0	5,0	38	C	6,5	8,0	75,5	9,0
14	C	6,5	7,5	76,0	10,0	39	B	4,0	77,0	5,0	12,5
15	A	43,0	33,5	17,5	5,5	40	C	8,0	11,0	72,0	8,5
16	A	59,5	29,0	4,5	7,0	41	D	12,5	11,0	2,0	74,0
17	D	7,5	5,5	6,5	80,5	42	C	11,5	18,0	67,5	2,0
18	D	7,0	4,0	9,0	80,0	43	A	84,5	2,5	6,5	5,5
19	C	4,0	4,5	82,5	8,0	44	D	29,5	7,0	10,0	52,0
20	D	12,5	2,5	13,5	71,0	45	B	8,5	57,5	28,0	5,5
21	B	15,5	43,5	11,0	29,5	46	B	11,0	32,5	5,0	51,0
22	B	10,0	68,5	9,0	12,5	47	A	47,5	27,0	12,5	12,5
23	C	5,0	3,5	81,5	9,5	48	A	62,5	13,0	16,0	8,0
24	D	11,5	12,0	5,5	70,5	49	A	27,0	10,0	52,5	10,0
25	D	10,5	7,0	14,0	67,5	50	C	17,0	18,0	44,5	20,0

* La somme des pourcentages pour chaque question peut être moins de 100 parce que la catégorie «pas répondu» n'est pas incluse.

Commentaires de l'examinateur

Partie A: Production écrite
Les enseignants qui ont participé aux corrections ont été bien impressionnés par la qualité des productions écrites des élèves. Il est évident que les élèves ont su tirer avantage de leurs expériences de lecture et d'écriture en classe lorsqu'ils ont accompli la tâche qu'on leur a donnée pour le Test de rendement. Le contenu et la présentation étaient tels que l'attention du lecteur était captée et maintenue. Tout cela appuie l'observation faite par plusieurs enseignants que les élèves écrivent plus en classe de français. La plupart des élèves ont de bonnes idées qu'ils organisent en un tout cohérent. Ils maîtrisent assez bien les structures de phrases et utilisent un vocabulaire approprié pour la 6^e année.

L'usage continue d'être un point faible. Dans cette catégorie, moins d'élèves ont atteint le niveau d'excellence et une plus grande proportion a été jugée limitée.

Les enseignants qui ont fait la correction ont observé que:

- les élèves savent que ce qu'ils écrivent va être lu et ils écrivent avec un public cible en vue et avec une intention de communication définie.
- à mesure que le programme est de mieux en mieux implanté, les élèves écrivent plus et de façons plus variées.
- l'usage continue d'être un point faible. Nos élèves ont des difficultés avec certains éléments de la langue qui devraient être maîtrisés par la 6^e année.

Partie B: Lecture
Les correcteurs qui ont aidé à confirmer les standards ont trouvé que le test de lecture représentait une évaluation juste de l'habileté de lire pour le niveau de 6^e année. La variété de genres littéraires, le contenu, le niveau de difficulté étaient tous appropriés pour les élèves de 6^e année. Ils ont aussi apprécié le montant de littérature canadienne dans le test.

Dans l'ensemble, les élèves ont bien réussi le test. Cependant, pas assez d'élèves ont rencontré le standard acceptable en lecture. L'habileté de comprendre ce qu'on lit et de pouvoir bien identifier l'intention de communication de l'auteur ainsi que les idées exprimées dans le texte sont essentielles. Il faut continuer de travailler à développer les habiletés langagières des élèves.

L'échantillon de questions et les commentaires qui suit illustre les forces et les faiblesses des élèves qui réussissent au standard acceptable et au standard d'excellence. Pour chaque question, la bonne réponse est indiquée par un astérisque et le pourcentage d'élèves qui ont choisi chacune des réponses possibles est donné. Il est important de noter que toutes les questions étaient basées sur les textes présentés dans le test.

Standard acceptable—exemples de questions et commentaires

13. La coccinelle utilise ses deux ailes cuirassées **surtout** pour

15,0	**A.**	se glisser
69,0	***B.**	se protéger
10,0	**C.**	éviter la sécheresse
5,0	**D.**	vivre sous des tas de feuilles

48. D'après l'auteur, la recette miracle qui a changé Timothée était

62,5	***A.**	son accueil dans une famille de dix enfants
13,0	**B.**	sa fierté et son indépendance
16,0	**C.**	son cours de dressage
8,0	**D.**	son intelligence

La question 13 demandait à l'élève de juger, selon l'information donnée dans le texte à lire, l'utilité principale des ailes cuirassées de la coccinelle. La plupart des élèves qui ont réussi au *standard acceptable* ont choisi la bonne réponse.

La question 48 exigeait que les élèves trouvent, par inférence, une des idées principales du texte. Plusieurs élèves qui ont rencontré le *standard acceptable* ont eu de la difficulté à choisir la bonne réponse.

La plupart des élèves qui ont rencontré le *standard acceptable* avaient l'habileté:

- d'identifier correctement les idées principales et secondaires d'un texte de lecture
- de faire des inférences et des jugements de nature peu complexe

Plusieurs élèves à ce niveau avaient de la difficulté à:

- identifier correctement les idées principales et secondaires quand celles-ci étaient moins évidentes
- faire des inférences et des jugements qui demandaient une réflexion plus profonde

Standard d'excellence—exemples de questions et commentaires

22. Quand le poète dit: "Chacun tracera sa voie" (vers 10), il veut dire que chaque personne

10,0	**A.**	veut connaître son avenir
68,5	***B.**	suit son propre chemin
9,0	**C.**	décide où elle va vivre
12,5	**D.**	part à la découverte

7. L'auteur dit: "Mais c'est un exemple très différent de réussite que nous a donné... Mère Teresa" (lignes 8-11) parce que la réussite de Mère Teresa est **surtout** une réussite sur le plan

31,5	**A.**	intellectuel
14,0	**B.**	féministe
3,0	**C.**	matériel
51,5	***D.**	humain

La question 22 demandait aux élèves d'identifier le sens d'une expression utilisée dans un poème. Presque tous les élèves au *standard d'excellence* ont choisi la bonne réponse.

La question 7 demandait aux élèves de faire une inférence et un jugement sur une des idées principales du texte donné. Certains élèves au *standard d'excellence* ont eu de la difficulté à choisir la bonne réponse. Trop d'élèves ont choisi la réponse **A**.

Conclusion

Les résultats au Test de rendement présentés dans le rapport indiquent que, de façon générale, les élèves des programmes francophones réussissent assez bien. La compréhension en lecture demeure un domaine à surveiller. Il serait souhaitable de voir plus d'élèves atteindre le *standard acceptable* en lecture à l'avenir.

Appendix A

Standards

The move toward a results-based curriculum has re-emphasized the need for a clear delineation of standards and their purpose. All standards and all methods of setting standards require judgment.

> The process of setting a standard can be only as good as the judgments that go into it. The standard will depend on whose judgments are involved in the process. In this sense, all standards are subjective. Yet, once a standard has been set, the decisions based on it can be made objectively. Instead of a separate set of judgments for each test-taker, you will have the same set of judgments applied to all test-takers. Standards cannot be objectively determined, but they can be objectively applied.[1]

Definitions

The Achievement Testing Program is directly concerned with three different but related standards. These provincial standards are curriculum standards, achievement standards, and assessment standards.

- **Curriculum Standards** are the expected student learnings sequenced into grade levels. They include specific statements of knowledge, skill, and attitude expectations against which student performance is judged. These standards are established in the process of curriculum development and are found in the *Program of Studies* document produced for each course.

- **Achievement Standards** are judgments that specify what percentages of students are expected to achieve or exceed an acceptable and an excellent level of performance in relation to each course of studies, i.e., the relevant curriculum standards. It is important to point out that this judgment is not a prediction of the percentage of students who will actually achieve or exceed acceptable or excellent levels of performance but rather is a specification of the percentage of students at a given age or grade in school who are *expected* to achieve or exceed an acceptable or excellent level. These standards apply to school, jurisdiction, and provincial performance.

- **Assessment Standards** are the criteria adopted for judging actual student achievement relative to curriculum standards. They are ultimately expressed and applied as test scores. They are derived from answers to questions such as:

  What scores must a student obtain or how many questions on a given test must a student answer correctly in order for his/her performance on the test to be judged as acceptable or excellent?

  These standards apply to individual student performance.

Indirectly, the Achievement Testing Program influences *local targets.*

- *Local Targets* are the objectives set in schools and jurisdictions to assist students in moving toward or exceeding the provincial assessment standards. These *local targets* reflect the specific needs of individuals and groups within a specific community.

The Student Evaluation Branch is responsible for establishing and reporting the provincial assessment standards and shares responsibility with the Curriculum Branch for establishing provincial achievement standards as they relate to the Achievement Testing Program.

---

[1] *Passing Scores;* Samuel A. Livingston, Michael J. Zieky; Educational Testing Service, 1982.

Purpose

The purpose of defining standards, and the subsequent process of setting the provincial assessment standard within the sphere of the Achievement Testing Program, is to answer questions such as:

- What is *acceptable* and *excellent* performance in relation to the curricular expectations for students at the age or grade being tested?
- What percentages of students at the age or grade being tested ought to achieve or exceed an *acceptable* and *excellent* level, assuming adequate teaching and resources?
- What scores on a specific test shall reasonably represent *acceptable* and *excellent* performance respectively?
- What are the prevailing strengths and weaknesses of Alberta students in relation to the curriculum being tested?

In essence, for each test and level of performance, the assessment standards setters are challenged to answer the question:

What score must a student obtain or how many questions must a student answer correctly to be judged as having achieved an acceptable or excellent standard?

Satisfactory performance may only be said to exist when the percentage of students scoring at or above the assessment standards is equal to or greater than the achievement standards.

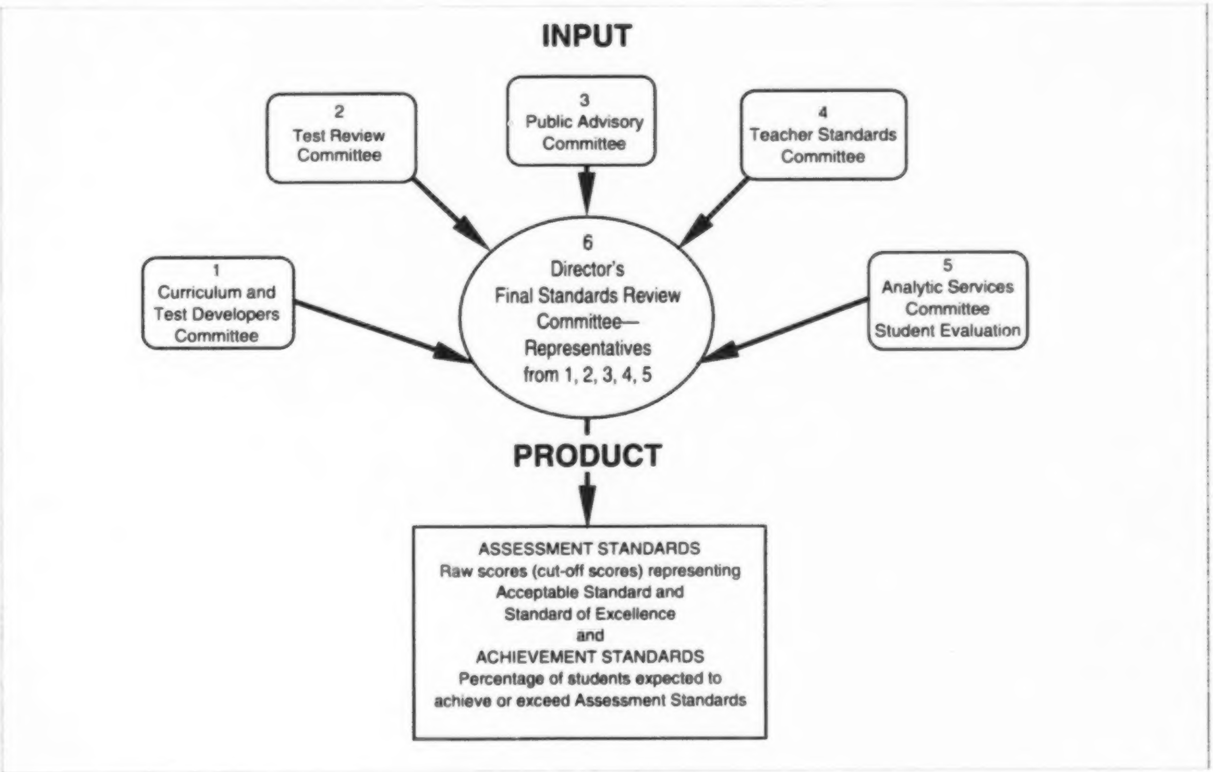
In this report, tables in sections 2, 3, 4, 9, and 10 dealing with standards show what percentage of students achieved or exceeded standards on each major component and on the total test.

The Assessment Standard-Setting Process

Figure A-1 shows the model established in 1991 by the Student Evaluation Branch to set standards for achievement tests. **The objective was to widen the process of setting assessment standards as much as possible over previous years and especially to provide for community input and feedback.** The process involves individuals and groups making judgments that contribute to establishing the assessment and achievement standards.

Except for the members of the Public Advisory Committee, the members of all committees outlined in Figure A-1 are expected to be highly knowledgeable about both the curriculum and the learning characteristics of the students who are writing the tests.

Figure A-1
Process Model for Standard Setting
Achievement Testing Program
June 1992



1. **Curriculum and Test Developers Committee**
There is one Curriculum and Test Developers Committee for each achievement test. The committee consists of Alberta Education consultants, curriculum developers, and test development specialists. Their objective is to recommend assessment standards to the Final Standards Review Committee. They may also review and make recommendations on Achievement Standards.

2. **Test Review Committee**
There is one Test Review Committee for each achievement test. Experienced and knowledgeable educators—teachers, superintendents, university professors, and Alberta Education consultants—meet with the developers of each test. Their purpose is to review the test and make recommendations for improvements where necessary. In addition, the committee reviews the appropriateness of current course achievement and assessment standards.

3. **Public Advisory Committee**
A Public Advisory committee, composed of representatives from the general public, met again in 1992 and discussed standards. See Appendix B for more information on the proceedings of this committee.

4. **Teacher Standards Committee**
Approximately 20 experienced teachers from different areas of the province are selected to sit on a Teacher Standards Committee for each test. To be selected for a committee, a teacher must have been teaching in the grade and

subject area for the previous two years. At present, the procedures used to aid teachers in setting the assessment standards are the modified Angoff method for Mathematics and Science subjects and the Nedelsky method for Humanities subjects.[2] The teachers make judgments about appropriate assessment standards and recommendations to the Final Standards Review Committee. As well, they review Achievement Standards for appropriateness.

5. **Analytic Services Committee**
The Analytic Services Unit of the Student Evaluation Branch is the professional quality control and advisory group for the complete process of standard setting. There is a committee of professionals in psychometrics and statistics for each test. A critical function is to ensure that Alberta Education's standard-setting procedures produce technically valid results that meet the strict requirements of high quality professional studies. The committee makes recommendations for assessment standard-setting procedures, leads individual group discussions, and recommends improvements where necessary. Another function is to determine, independently, assessment standards through statistical analyses of current student achievement data.

6. **The Final Standards Review Committee**
The Final Standards Review Committee consists of representatives from the above committees and is chaired by the Director of Student Evaluation. In separate sessions, the recommendations of all test committees are presented and, through consensus, final Assessment Standards are adopted for each test.

1992 Assessment and Achievement Standards

Tables A-1 to A-3 show the assessment and achievement standards adopted in June 1992 by the Final Standards Review Committee for the grades 3, 6, and 9 achievement tests. The tables also show the percentages of students achieving or exceeding provincial assessment standards.

---

[2] "A Consumer's Guide to Setting Performance Standards on Criterion-Referenced Tests" Ronald A. Berk: Review of Educational Research, Spring, 1986, Volume 56.

Table A-1
Grade 3 Social Studies
Assessment and Achievement Standards
June 1992

	Standard of Excellence		
Category	**Provincial Assessment* Standard**	**Percentage Achieving or Exceeding Assessment Standard**	**Provincial Achievement** Standard**
Total Test	47/50	15.9	15
Concepts	17/18	22.7	15
Process Skills	30/32	20.9	15

	Acceptable Standard		
Category	**Provincial Assessment* Standard**	**Percentage Achieving or Exceeding Assessment Standard**	**Provincial Achievement** Standard**
Total Test	31/50	83.5	85
Concepts	11/18	81.0	85
Process Skills	20/32	85.0	85

*The Provincial Assessment Standard is a score determined by appropriate standard-setting procedures and is the lowest score a student must achieve for his/her performance to be judged acceptable or excellent in relation to curricular expectations.

**The Provincial Achievement Standard refers to the percentage of students expected to meet or exceed the Provincial Assessment Standard.

Table A-2
Grade 6 English Language Arts Assessment and Achievement Standards
June 1992

Category	Standard of Excellence		
	Provincial Assessment Standard	Percentage Achieving or Exceeding Assessment Standard	Provincial Achievement Standard
Total Test	80/100*	9.5	15
Written Response	28/35	13.6	15
Reading Skills	40/50	15.3	15

Category	Acceptable Standard		
	Provincial Assessment Standard	Percentage Achieving or Exceeding Assessment Standard	Provincial Achievement Standard
Total Test	51/100	75.6	85
Written Response	18/35	76.1	85
Reading Skills	25/50	72.7	85

*The Writing score is multiplied by 50/35 before adding it to the Reading score so that both are weighted equally.

Table A-3
Grade 9 Mathematics Assessment and Achievement Standards
June 1992

Category	Standard of Excellence		
	Provincial Assessment Standard	Percentage Achieving or Exceeding Assessment Standard	Provincial Achievement Standard
Total Test	42/49	8.9	15
Problem solving	26/31	10.7	15
Knowledge	16/18	12.7	15

Category	Acceptable Standard		
	Provincial Assessment Standard	Percentage Achieving or Exceeding Assessment Standard	Provincial Achievement Standard
Total Test	23/49	67.4	85
Problem solving	14/31	64.1	85
Knowledge	9/18	75.6	85

Appendix B

Public Review of Standards and Results

On July 23 and 24, 1992, representatives of twenty-four business, professional, and community organizations reviewed achievement test results and discussed standards. This meeting was planned to ensure that input from groups representing "public" interests would be considered in the overall reporting of results. The purpose of the meeting was to gather direct public input into the question:

> How well should Alberta students achieve in Grade 3 Social Studies, Grade 6 Language Arts, and Grade 9 Mathematics?

The two-day meeting was designed to collect information that would contribute to a better understanding of how well Alberta students are doing. This was accomplished by exploring and discussing answers to four questions. Each question is listed below, along with the results of the discussions.

Question:

What do members of the public expect students to know and be able to do in Grade 3 Social Studies, Grade 6 Language Arts, and Grade 9 Mathematics?

For each subject area, participants listed the knowledge and skills that they felt were important learnings for students to achieve at each grade level.

The following learnings were highlighted by the group as important:

Social Studies 3
Students should:

- know the role of business in a community
- know the behaviors that reinforce working in a group
- know that some communities are unique and have an awareness of the concept of respect
- be able to use a variety of ways to access information, including interviewing and basic library skills
- be able to read and interpret maps and graphs
- be able to apply the understanding of the concept of community in real-life situations

English Language Arts 6
Students should:

- know how to read for meaning
- know how to organize appropriate content and use coherent sentences to write for a purpose
- be able to use deductive reasoning to draw inferences from what has been read
- be able to select and use vocabulary that provides detail to meaning
- be able to derive meaning from context

Mathematics 9
Students should:

- know and be able to use the steps of the problem-solving process
- know and be able to apply the formula for calculating area in a real-life application
- know how to manipulate simple algebraic equations to solve problems
- be able to convert fractions to decimals
- be able to use basic statistical knowledge such as mean, median, mode, and sampling techniques to analyze data and estimate populations respectively
- be able to calculate discount value using their knowledge and understanding of ratios and proportions

Question:

How closely do the public expectations about student learning relate to provincial standards?

Participants had the opportunity to review the achievement tests, the student attitudes survey, and the performance assessments that had been administered in 1992. There was essentially a match between the participants' expectations of what students should know and be able to do, and the knowledge and skills students needed to answer the questions in each of the tests.

Participants expressed concern that some of the questions were worded in a manner that could make questions harder than they needed to be. More open-ended types of questions were suggested to allow students the opportunity to explain their answers.

Question:

How well did students actually perform on the achievement tests?

Participants identified questions in the tests that corresponded to knowledge and skills they felt were most important for students to learn. In addition, they discussed the percentage of students in Alberta that **should** answer each question correctly to meet provincial standards. Results showing how well students **actually** performed on these questions were also presented to the group. As well, an initial analysis of the composition component of the language arts test was presented.

In all subject areas, students achieved some of the expectations participants set for specific learnings. For other learnings, achievement was below expectation. These areas are listed below.

Social Studies 3
Met Standards:

- understand the concept of community
- know the behaviors that reinforce group work
- be able to read and interpret maps

Did Not Meet Standards:

- be able to use research skills to find information
- understand the concept of respect

Language Arts 6
Met Standards:

- know how to use words and expressions accurately most of the time
- be able to make simple inferences based on literal understandings

Did Not Meet Standards:

- be able to attend to and identify pertinent details of setting and scene
- be able to analyze elements of the author's organization
- be able to understand cause and effect relationships
- be able to attend to and identify pertinent details and motivation of main and minor characters
- be able to associate the meanings of words, phrases, and expressions from context
- be able to construct meaning, make predictions, and draw conclusions from synthesizing information

Mathematics 9
Met Standards:

- be able to apply knowledge of ratio and proportion to solve single-step problems in a real-life context
- know basic statistical terms and be able to apply the knowledge to simple problems

Did Not Meet Standards:

- know how to convert fractions to decimals
- know how to manipulate equations
- be able to apply knowledge of statistics to solve multi-step problems
- be able to calculate simple interest earned on a principal during one year
- be able to evaluate an expression using positive and negative integers
- be able to apply the understanding of length, width, and area to solve multi-step problems
- be able to construct a formula that shows the relationship between two quantities

Question:

Did the group feel that students' performance on the achievement tests was good enough?

Generally, the participants of the two-day meeting felt that student performance in Grade 3 Social Studies was "good enough" and that student performance in Grade 6 Language Arts and Grade 9 Mathematics was "not good enough."

Other Comments from Participants
Several other comments were made. All members of the committee had an opportunity to provide feedback regarding the organization and activities of the two day meeting. Their comments are summarized below:

- All participants indicated that they had an adequate opportunity to express their views.

- Participants also indicated that the group discussions were good and worked well to achieve a consensus.
- Participants felt that presentations were well paced and timed.
- Many participants indicated that the highlight of the two days was when they actually had to complete the same tasks students had to perform.
- Participants suggested that this type of "public meeting" activity should continue, and some suggested that perhaps it should be expanded to the local school board level.

A Final Note

The views of participants regarding the achievement of Alberta students were used to help set the assessment standards for the 1992 achievement tests.

A more detailed report on the 1992 meeting was distributed to participants and is available upon request. Please contact Yvonne Johnson at 427-0010 to obtain a copy of this report.

The next meeting for public review of achievement standards will be held in July 1993.

Appendix C

Guidelines for Interpreting Results

Following each administration of the achievement tests, a **Provincial Report** is prepared. This report is a public document that describes the aggregated results obtained by those students who wrote achievement tests in a given year. School board members, superintendents, principals, and teachers can use the Provincial Report as they review results for students in their own jurisdictions and schools. By using the Provincial Report in this way, policymakers and educators can check their perceptions of local achievement against province-wide standards and trends in the levels of achievement.

This **Provincial Report** describes the results achieved by students who wrote the June 1992 achievement tests in Grade 3 Social Studies, Grade 6 English Language Arts, Grade 6 French Language Arts, and Grade 9 Mathematics.

Individual **jurisdiction** and **school reports** are sent to superintendents and principals approximately three months before the Provincial Report is published. Policymakers and educators in each jurisdiction are encouraged to study carefully the provincial results and their own test results.

It should be noted that results for groups of fewer than 25 students should be interpreted with caution. Results for such groups can be affected by the presence of a few extreme scores when the analyses are performed to produce the respective group statistics. Consequently, any generalizations may appear to indicate performance that is higher or lower, better or worse than it is in relation to the criteria applied.

Educators at the school and jurisdiction levels can make three kinds of comparisons to decide if the achievement of their students is "good enough." One comparison is in relation to expectations or standards; another is in relation to the achievement of students in the entire province of Alberta; and the third is to look at the jurisdiction results in 1988, when tests in these subjects were last administered. After making these comparisons, teachers, principals, and superintendents can identify the strengths in the programs that were delivered in their grades 3, 6, and 9 classrooms. Where the results show weaknesses, changes can be made where possible and desirable.

Use of the Reports

The reports are **not** intended to be used as the basis for

- making decisions about student placement or promotion
- evaluating teacher performance
- comparing performance between or among schools.

Administrators in each jurisdiction should apply separate locally developed teacher, school, and school system evaluation policies to the tasks of evaluating teacher and school performance.

The information provided in the reports is factual regarding what the test results are. The interpretation of this information —hypothesizing *why* results are as they are— involves consideration of the many factors and variables that contribute to achievement.

Moreover, the information in these reports is limited to selected objectives of the *Program of Studies*. Many important aspects of learning cannot be measured by the time-limited, paper and pencil achievement tests.

Assessment Standards and Achievement Standards

Standards have been confirmed for each achievement test and are reported both here in the Provincial Report (sections 1, 2, 3, 4, 9, 10, and Appendix A), and in table 2 of the jurisdiction and school reports. Criteria representing a **standard of excellence** and an **acceptable standard** were confirmed for each of the major reporting categories (components) of a test and for the total test. These criteria are referred to as assessment standards. The assessment standards are supplemented by achievement standards, which specify the percentage of students in the province expected to meet or exceed the assessment standards. Appendix A provides more detail on both the standards and the process by which they have been confirmed.

Tables in the subject sections of the Provincial Report show the number of students writing the test who met or exceeded the provincial assessment standards, the number who were expected to meet or exceed the standards, and the percentages who met or exceeded the standards on each major component of a test and on the total test.

The school and jurisdiction tables also show whether the number of students in that school or jurisdiction who achieved or exceeded the standards is significantly different from the expected number. *A 95% confidence interval is used for these purposes; this criterion means that differences are only reported when there is a 5% or smaller probability that a difference of that size could occur by chance.* For schools and jurisdictions with fewer than six students, significances are not calculated and the indications are omitted. Although the statistical tests take the number of students into consideration, it is a useful rule of thumb that results for groups of fewer than 25 students must be interpreted with particular caution. Chance variation in small groups is greater.

Educators interpreting these reports are encouraged to consider how well their students have done compared to the assessment standards and how well schools and jurisdictions have done compared to the achievement standards.

Comparing Results to Average Scores

While overall test results are presented in relation to provincial standards, each jurisdiction and school report also provides jurisdiction or school average scores for each reporting category or subtest. Educators may compare each of these scores to the provincial average for the same reporting category or subtest to determine if differences exist.

Evaluating the importance of differences that may exist between jurisdiction or school averages and provincial averages requires careful consideration of the practical significance of differences and whether the students should be expected to have the same level of achievement as other students in Alberta. Consequently, we suggest that more attention be given to comparing achievement with standards.

Factors Limiting the Interpretation of Test Results

Educators who are interpreting results must take into account the following limitations:

1. Paper and pencil tests necessarily measure reading achievement in the content area being tested. Standards built into each achievement test reflect the reading level expectation for the grade level tested. Jurisdictions should consider the average reading level of their grades 3, 6, and 9 students, as reading levels below these grades will have an effect on test results.

2. If more than 10% of eligible students in a jurisdiction did not write a test, the reported statistics for that jurisdiction may not accurately represent the true level of achievement.

3. Consideration should be given to the degree to which students in particular classes or grades were motivated to perform to their level of ability.

Factors That May Affect Student Achievement

Results on the achievement tests may have been affected by:

1. Environment
    - community environment
    - school environment including staff morale
    - socioeconomic background
    - family circumstances

2. Personal Factors
    - ability
    - attitude
    - motivation
    - aspiration
    - academic background
    - learning style

3. Availability and Appropriateness of Resources
    - programs of study
    - curriculum guides
    - resource materials
    - library services
    - current textbooks
    - references

4. Instruction
    - teacher qualifications (i.e., to teach a particular subject)
    - teacher experience
    - teacher morale
    - professional development
    - staff turnover
    - professional support
    - teaching strategies
    - timetabling constraints or influences

A Systematic Approach to the Effective Use of Test Results

Achievement test results can be used constructively as one means of improving the quality of education. A systematic use of the test results would include the following steps:

1. Comparing test results for a jurisdiction or school to the provincial results. Be sure that your comparisons include the
   - total test score,
   - total and subtest scores for multiple-choice questions,
   - total and subtest scores for written-response assignments (when appropriate),
   - individual multiple-choice question results, and
   - individual written-response question results (when appropriate).
2. Noting any patterns, anomalies, and/or interrelationships in the results.
3. Hypothesizing relationships between your observations and any of the factors listed in these guidelines that may have had an effect on achievement or achievement test results.
4. Considering and implementing a plan that will help to improve the quality of education for students.

An Administrative Model for the Effective Use of Achievement Test Results

The following model may be useful for those who wish to develop a constructive system for interpreting achievement test results.

Basic Principles

1. It is desirable and feasible for teachers and school administrators to make use of achievement test results in analysing the performance of their own students.
2. It is more constructive for schools to develop their own analyses, interpretations, and action plans than to have these imposed externally.
3. The impact of factors such as those listed in these guidelines should be analysed and discussed when reviewing achievement test results.
4. Subtest or reporting category results are usually more informative than total test scores.
5. Generalizations should be stated with caution and should be supported by evidence that is independent of achievement test results.
6. It is neither desirable nor productive to compare the results of different schools.
7. Achievement tests measure many of the objectives specified by the curriculum. However, skills and concepts that are not measured by the achievement tests are also to be taught and evaluated at the local level.
8. Staff discussions as well as written reports are useful means of ensuring that results are appropriately interpreted and used.

Suggested Content for Interpretation of Individual School Results

1. Subject, grade level, and date of achievement test administration
2. Number of students who wrote the achievement test
3. Profiles of students or groups who wrote the achievement test, which include
   —previous performances
   —number of students repeating the grade
4. Program emphases, such as hours of instruction, skill and content emphases
5. Instructional practices, such as methodology, resources, and the relationship between the program offered and the provincial curriculum
6. Program objectives not measured by the achievement test
7. School results compared with provincial results on subtests
8. Current school results compared with those of previous administrations
9. Discussion of item results, identification of common student errors, and suggestions of ways for reducing the misunderstanding that leads to these errors
10. Recommendations for the following year or semester
11. Summary and concluding comments

Suggested Reporting Structure

1. Teachers and/or the principal analyze the results and prepare a written report about each administration of an achievement test.

2. The principal reviews and signs the report.

3. The report is shared with central office supervisory personnel.

4. The appropriate central office supervisory personnel prepare a written response to the report, with copies of the response going to the teachers and the principal.

5. If possible, all staff involved meet to discuss the report and the response.

6. Reports are used to improve the program and maximize future opportunities for student success.

7. When large differences exist between expected and actual achievement test results over time, consideration should be given to conducting a formal program evaluation.

Appendix D

Reporting to Parents: Answers to Frequently Asked Questions

What are the achievement tests?

The achievement tests are provincial government tests administered in Alberta schools to students in language arts, social studies, science, and mathematics.

What is the purpose of the achievement tests?

The achievement tests help Alberta Education to communicate provincial expectations and results for levels of student performance in language arts, social studies, science, and mathematics. The tests enable Alberta Education to monitor the level of achievement of students throughout Alberta. The results also help local school boards, principals, and teachers identify the strengths and weaknesses in their implementation of these programs.

How many achievement tests will my child have to write?

In 1992, students wrote only one test in Grade 3 social studies, one in Grade 6 language arts, and one in Grade 9 mathematics. In 1993, the program will assess Grade 3 students in language learning, Grade 6 students in social studies, and Grade 9 students in science. In addition, the Grade 3 Language Learning Achievement test will be given to a provincial sample of 9 year-olds not registered in Grade 3 during the 1992-93 school year.

How should I prepare my child to write an achievement test?

No preparation beyond normal classroom instruction is required to write an achievement test. While students should be encouraged to do their best, a good night's sleep and a relaxed, confident approach to testing are the best possible preparation.

How much do these tests count for my child?

The achievement tests do **not** affect students' final marks. The classroom teacher is responsible for evaluating students and awarding final marks. Achievement test results are not released by Alberta Education until October, long after students' marks have been determined by the classroom teacher.

How do achievement test results help classroom teachers?

Achievement test results provide feedback on student achievement to school boards, principals, and teachers. For example, teachers in a school where student performance is high in one skill area but low in another may wish to examine their programs to see if changes are needed to achieve a better instructional balance.

What are the limitations of the achievement tests?

Paper and pencil tests cannot easily measure such things as laboratory skills, small group discussions, and creative thinking. Thus, some student strengths can be evaluated only by the classroom teacher. Also, a single test cannot reveal as much about a student's development and growth as can evaluation by the classroom teacher over the course of a full school year.

What advantage do achievement tests have over other standardized tests?

Unlike commercially developed tests, achievement tests are based on learning expectations and standards communicated through Alberta's programs of study. The tests are designed, written, and evaluated by experienced classroom teachers from across the province. Tests developed elsewhere may not reflect curriculum or standards appropriate for Alberta.

How do I interpret achievement test results?

The *Achievement Testing Program Provincial Report* includes guidelines for interpreting results. Readers are cautioned not to overgeneralize conclusions based on a single administration of the test. Results should be compared with expectations or with the results of previous achievement tests in the same subject. Any trends that are observed in the scores must then be interpreted in the context of a variety of factors that could affect student achievement.

Comparisons between districts, schools, or classrooms are likely to prove misleading and are therefore discouraged.

Can I find out how my child did on the achievement test?
Yes, by contacting the school where your child wrote the test. Individual results on the achievement tests are made available to school principals in the fall. Since the tests are designed to gather information on groups of students, not on individuals, individual results must be interpreted with caution.

Where can I get additional information about the Achievement Testing Program?
Bulletins describing the content of the coming year's achievement tests and the Provincial Report describing the results of the previous year's testing are distributed to schools each year. Requests for copies of these publications or questions and comments regarding the Achievement Testing Program should be directed to:

Mr. Dennis Belyk
Assistant Director
Achievement Testing and
Diagnostic Evaluation Programs
Student Evaluation Branch
Alberta Education
Devonian Building, West Tower
11160 Jasper Avenue
Edmonton, Alberta T5K 0L2

Appendix E

Developing Achievement Tests

The Student Evaluation Branch develops achievement tests that measure student achievement at the grades 3, 6, and 9 levels. Province-wide testing in language arts, mathematics, science, and social studies follows a four-year cycle for each grade level and subject. Many individuals and groups are involved in the development of each test: practising classroom teachers, school and central office administrators, and representatives of post-secondary institutions, the Curriculum Branch, the Language Services Branch, Regional Offices, and the Student Evaluation Branch. Student Evaluation Branch staff ensure the development of valid and reliable tests.

The following is a summary of the phases of the test development process:

- Planning
- Approving Blueprints
- Developing Test Questions
- Constructing and Administering Field Tests
- Analyzing and Revising
- Constructing Final Field Tests
- Approving Final Field Tests
- Administering Final Field Tests
- Constructing the Final Test
- Preparing and Administering the Final Test
- Marking
- Analyzing and Reporting the Results

Under normal circumstances, it takes three years to complete all phases of the process.

Planning

Test developers ensure that the design of each achievement test reflects the learning expectations in the *Program of Studies* for each subject. Planning takes into consideration those parts of the program that are testable in a paper and pencil format, within a given time frame. Teachers and consultants from across the province assist in preparing the design of each test.

Test developers prepare an interim test blueprint (an overall plan used to guide the development of a test). Questions that must be addressed at this point are:

- What knowledge, skills, and attitudes should students be expected to demonstrate?
- What types of questions will constitute the test (machine-scored, short answer, or extended written response)?
- What weighting will each part of the test be given?
- How long and how demanding should the test be?
- How should the results of the test be organized for reporting purposes?

In order to ensure that each test will produce meaningful and reliable results, test developers incorporate statistical as well as curricular standards in the test design. Statistical standards address areas such as range of question difficulty and the requirements for reporting.

Each dimension of the curriculum for which results are reported must contain at least six questions if the results are to be meaningful.

Approving Blueprints

Blueprint approval establishes the overall design of the test, the exact emphases given to each category for which results are reported, and the emphases given to the different cognitive levels.

The interim blueprint is reviewed by a committee of Alberta Education personnel that represents the Curriculum Branch (or Language Services Branch), Regional Office consultants, and the Student Evaluation Branch. This committee makes recommendations to the Director of the Student Evaluation Branch. The blueprint recommended by the Alberta Education committee is then reviewed by a Test Review Committee, which consists of teachers and members nominated by the Conference of Alberta School Superintendents and post-secondary institutions. This committee makes recommendations to the Director of the Student Evaluation Branch.

Developing Test Questions

Following blueprint approval, committees of practising classroom teachers working at the appropriate grade level are formed, and question development meetings are held. These committees develop new test questions that reflect the learning expectations of the *Program of Studies* and curriculum specifications. Where necessary, question developers are trained in the principles of question construction. Questions built in committee are then screened for format, validity, blueprint 'fit', and other design considerations.

Constructing and Administering Field Tests

After careful editing and formatting of questions developed by the teacher committees, field tests are constructed. Any required artwork is completed during this phase of the test development process.

With permission from school and jurisdiction personnel, field tests are sent to a number of teachers throughout Alberta. The students involved are representative of the student population for which the test has been designed. A minimum sample of 150 students writes each field test.

Teachers who administer a field test are asked to comment in writing on the following:

- reading level
- how closely the question matches the way in which a concept was taught
- level of difficulty of the questions
- quality of the questions and graphics
- errors of any kind

The results from the administration of this initial round of field tests are used to validate content, to determine difficulty levels, and to ensure that questions are expressed clearly. Special field tests are also constructed to 'try out' new assessment strategies and techniques that may be useful for future assessments.

Analyzing and Revising

The results of each field test are then analyzed and scrutinized to determine whether individual questions require revision. Teacher comments regarding the way that test questions are structured and the way that a subject is being taught are also carefully considered and used to guide revision.

Questions deemed to require changes are revised and submitted for further field testing.

Constructing Final Field Tests

Once the initial field test results are thoroughly analyzed and questions requiring changes are revised, final field tests are constructed. These field tests follow the approved blueprint and parallel the actual achievement test in format and design. Final field tests, like all field tests, are submitted for further validity checking, editing, and proofreading. In grades 6 and 9, separate tests in English and in French are developed for language arts. At this point, all other tests for Grade 6 and Grade 9 are translated into French.

Approving Final Field Tests

After the final field tests have been constructed, a second meeting of the Alberta Education Committee that represents the Curriculum Branch (or Language Services Branch), Regional Office consultants, and the Student Evaluation Branch is convened. This committee reviews the final field tests and makes recommendations for improvement. The Test Review Committee, which approved the blueprint in Phase Two of the test development process, meets a second time to review and recommend for approval the final field tests and the instructions for administering the tests. If a test includes short-answer or extended-writing questions, the Test Review Committee discusses standards of achievement and marking standards appropriate for the test. Again, this committee makes recommendations to the Director of the Student Evaluation Branch.

Administering Final Field Tests

The final field tests are administered and the results are used as a final screen in selecting questions for placement on the provincial achievement test. A minimum sample of 250 students writes each final field test. The sample is selected to include:

- only students who have received instruction in the course
- students representing a normal distribution of ability levels
- students from rural and urban schools
- students from large and small schools

Constructing the Final Test

The construction of the final test form is based upon information collected from the final field test administration. The Test Review Committee is reconvened to review the final test form and to assist in setting assessment and achievement standards.

The test is submitted for final validity checking, editing, and proofreading. Grade 6 and Grade 9 achievement tests, in subjects other than language arts, are translated into French.

For each test, an information bulletin is prepared that outlines the design and nature of the upcoming tests. These bulletins are distributed to each school at the beginning of the school year to facilitate program and instructional planning by teachers and administrators.

Preparing and Administering the Final Test

The completed achievement test is commercially printed and prepared for distribution. Sufficient copies of the test are mailed to each school. Quantities are based on the number of students enrolled in the subject as reported to the Student Evaluation Branch. The test is administered to students by their classroom teachers.

Marking

All written-response sections of the tests are marked by classroom teachers. These teachers, who are recommended by their superintendents, are currently teaching the course being evaluated, have taught the course for a minimum of two years, and hold a valid Alberta Permanent Professional Certificate.

Student Evaluation Branch staff train and supervise the teachers during the marking sessions.
All multiple-choice and numerical responses are machine scored.

Analyzing and Reporting the Results

A results report is prepared and distributed to superintendents, school principals, Alberta Education officials, and other Departments of Education. This report is also made available to the general public. In addition to the *Achievement Testing Program Provincial Report*, each school and jurisdiction receives a statistical summary for its student population.

For further information, please refer to the Achievement Test Bulletins or call the Assistant Director, Achievement Testing and Diagnostic Evaluation Programs, at 427-0010.

Achievement Testing Program
Provincial Report

Questionnaire

The Student Evaluation Branch strives to produce documents that are useful to educators and their communities. The purpose of the following questionnaire is to collect your opinions about the *Achievement Testing Program Provincial Report*. All opinions are considered when the content and format of the next report are reviewed. Please take a moment to respond to the questions and send to:

Assistant Director, Analytic Services
Student Evaluation Branch
Alberta Education
11160 Jasper Avenue
Edmonton, Alberta T5K 0L2

Content of the Report

1. Please judge the usefulness of the information included in the various sections of the report by checking the appropriate boxes below.

		Very Useful	Adequately Useful	Partially Useful	Not Useful
Section 1:	Summary of Achievement Test Results	☐	☐	☐	☐
Section 2:	Grade 3 Social Studies	☐	☐	☐	☐
Section 3:	Grade 6 English Language Arts	☐	☐	☐	☐
Section 4:	Grade 9 Mathematics	☐	☐	☐	☐
Section 5:	Achievement by Gender	☐	☐	☐	☐
Section 6:	Achievement by Age	☐	☐	☐	☐
Section 7:	Achievement by Grade Level	☐	☐	☐	☐
Section 8:	Achievement Over Time	☐	☐	☐	☐
Section 9:	Grade 6 French Language Arts—French Immersion	☐	☐	☐	☐
Section 10:	Français 6e Année—Programme francophone	☐	☐	☐	☐

Format of the Report

1. Please judge the usefulness of the report's format by checking the appropriate boxes below.

	Very Useful	Adequately Useful	Partially Useful	Not Useful
Organization into Separate Sections	☐	☐	☐	☐
Three-Column Presentation of Text	☐	☐	☐	☐
Presentation of Figures	☐	☐	☐	☐
Presentation of Tables	☐	☐	☐	☐
Blending of Information in Text, Figures, and Tables	☐	☐	☐	☐

Please write on the back of this page if you wish to comment further on the report.